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SOME NEWER DEVELOPMENTS IN DIAGNOSIS, TREATMENT AND PREVENTION OF RICKETS[1]

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BEFORE considering the newer developments in the diagnosis of rickets, it might be well to survey the field briefly, and to enumerate the more common means of making diagnoses. These divide themselves into the physical examination with its diagnostic signs, the x-ray examination of the long bones, and chemical studies made upon the patient's blood. We also may include a method that is obviously not so generally available—mineral balance determinations used in certain types of studies.

The more common physical signs of rickets are familiar to you. To enumerate them briefly, they are: (a) beading of the ribs, the so-called rachitic rosary; (b) Harrison's groove, due to the pull of the muscles of respiration on the softened rachitic ribs; (c) craniotabes, which is certainly of definite rachitic significance when it appears as late as the fifth and sixth month of age; (d) undue prominence of the frontal bosses, *i.e.* the "Daniel Webster" forehead; (e) headsweating; (f) widening of the epiphyses; and (g) bowing of the legs, or knock-knees. The signs themselves are easily recognized, but their diagnostic importance is not so obvious (1, 2).

During the last two winters, I have done x-ray and blood chemical studies on 187 infants who were thought from physical examination to have active rickets. All these babies were presenting, to a considerable degree, two or more of the aforementioned signs. My percentage of success, as judged by the x-ray and blood chemistry studies, was not very high. Only 36 per cent had active rickets according to the x-ray examination, and if I used a blood phosphate level of 4 mg. per c.c. or less as evidence of active rickets, my success was 20 per cent; if I used a newer diagnostic method, a blood phosphatase of 8.5 mg. to 12.5 mg. per c.c.,

[1] Presented before the American Dietetic Association, Cleveland, October 30, 1935.

as normal, it was 89 per cent. Using present criteria, with the diagnosis of rickets dependent on the x-ray examination or blood chemical studies, we must admit a large amount of confusion and uncertainty, particularly with the milder degrees of the disease. Physical signs tell us too little regarding the degree of activity of the disease, and afford us only a lead toward diagnosis.

The x-ray examinations of the long bones, (1, 3) particularly of the wrist and forearm, have been more reliable. In those cases where the child has moderate or advanced rickets, no trouble is found in recognizing the characteristic features of the disease. The bones present cup shaped metaphyses with a frayed out appearance, and many show demineralization of the shaft. This latter may result in the appearance of an actual defect of the bone, seen often just proximal to the epiphysis. Sometimes these defects do not become noticeable until some healing has taken place. Often the process seems not to have involved the diaphyses to any great extent until, as healing progresses, we see increased calcification taking place here. With healing, a faint line of calcification is first observed at the metaphysis, which later becomes more dense, until finally the entire osteoid portion fills in. As this progresses, lime salts fill in the shaft of the bone under the periosteum and it becomes more dense. Recently Davidson *et al.* (14) have described a fraying of the proximal end of the radial surface of the shaft of the ulna as a significant sign of rickets, especially in the premature. Thus the observer can gain a great deal of valuable information studying the roentgenogram, particularly in series, as to the actual rachitic state and progress of the disease. However, the x-ray diagnosis is dependent to a very great extent upon the variable personal factor of the individual reading the x-rays, and in mild cases of rickets diagnosis from the film is uncertain. Eliot recognizes as a mild, or as she expresses it, A-1 degree of rickets, one which shows involvement of the metaphysis to only the slightest degree. There may be some periosteal defect, very slight cupping, or only flattening and loss of density at the metaphysis. These are the cases where disagreement in diagnosis is greatest. Observers familiar with the diagnosis of rickets may disagree in a huge percentage of these mild cases and when we have so much difficulty with roentgenographic diagnoses, we become uncertain as to the reliability of comparisons of studies where results are based solely on x-ray interpretations, especially when made by different persons.

Various ways of expressing degrees of rachitic involvement are used. Eliot refers to active rickets as A-1, A-2, A-3 and A-4, depending upon

the extensiveness of the involvement. The late Alfred Hess referred to patients' metaphyses as showing spreading—patients that I would have considered as having A-1 rickets. Sometimes the descriptive terms are mild, moderate, severe, or one, two, three, and four plus rickets. The probability is that the persons interpreting the x-rays are seeing much the same things, but the evaluations are different, and even differently stated. Thus, x-ray diagnoses, particularly as we try to compare them in different experiments, are only moderately reliable. This weakness of x-ray diagnosis has been recognized, and there have been attempts made to cope with it. Bourdillon *et al.* (5) and De Does (6) have attempted, by making comparisons with certain standards, to estimate calcium and vitamin D effects.

Having attempted to weaken your faith in what you can and cannot see in the x-ray, we may consider the blood chemical diagnostic standards in rickets. Our own experience (7) as well as that of others (8) fails to lead us to believe that a normal blood calcium is of any significance in rickets. A definitely lowered blood calcium probably is significant, certainly it is in the diagnosis of tetany. The blood calcium, however, is so often normal in severe rickets that it is the least helpful of the ordinary chemical determinations.

Blood phosphorus is generally low in active rickets. As you know, it represents only a measure of the phosphate level in the blood at the time taken. Blood phosphorus responds to vitamin D treatment very promptly, and often, even when quite low, rises to normal (7, 8, 9) in a few days. Obviously, the rachitic patient is still rachitic, and continues in need of the antirachitic treatment (8, 10). One of the differences between viosterol and cod liver oil seems to be that viosterol tends to mobilize phosphate in the blood, to raise its level very promptly to normal (11), yet is less effective in the actual cure of rickets (12).

A more recent and highly engaging phase of the chemical diagnosis of rickets has been opened up with Kay's observation (13) that in rickets the blood phosphatase is increased. Phosphatase may be defined as an enzyme, present in practically all tissues of the body, which has the capacity of splitting organic phosphorus compounds and liberating inorganic phosphorus. Some interesting observations (8, 14, 15) and theories have been advanced to support the idea that phosphatase determinations should offer us a superior method of early diagnosis. Kay (16), in a review, points out the local importance of phosphatase in calcification of bone, the theory being that the phosphatase liberates inorganic phosphate in the neighborhood of the newly forming bone, and calcification

takes place as the calcium and phosphate concentration exceeds its solubility product. This theory is supported by reports of King *et al.* (17) and Policard *et al.* (18) who found in fetal bones and healthy bones from children that phosphatase was present in large amounts in the parts where active calcification was taking place. It was present in very slight amounts, if at all, in areas where no calcification was being effected. In rickets, the phosphatase values were much higher than in normals, the distribution being the same.

From the preceding discussion, it is evident that there are genuine objections to our present methods of diagnosis. Physical signs are notoriously inadequate, x-rays often fail to show early cases, and failure to interpret them with a common language, along with the personal factor of x-ray reading, renders consistent agreement as to diagnosis extremely unlikely. Blood calcium and phosphorus determinations tell us only the calcium and phosphorus levels at a given time and very little as to the progress of the disease. Further, blood phosphorus returns to normal so quickly that active rickets may exist even when this is normal. If, however, the blood phosphatase is an index of abnormal bone activity, as manifested by its being increased in rickets, then it may afford us a method of determining, with numerical exactness, the presence or absence of rickets, the degree of severity, and the rate and extent of healing which is taking place. Bodansky (8) has reported studies made along this line in the diagnosis and treatment of rickets. He found in all cases of active rickets that the blood serum phosphatase was high, that even though the blood phosphorus returned promptly to normal when it was low, the phosphatase dropped gradually as healing occurred. He reported that with exacerbations of the disease, the phosphatase increased again, and as healing progressed to a certain point, it dropped to a somewhat high level until the bone had returned to its normal state, when the serum phosphatase fell to normal. Our own experience, using Bodansky's method (19), bears out most of this. We did not find, however, that if a sufficient amount of vitamin D was used, a plateau was maintained as healing progressed. Rather, our phosphatase levels seemed gradually to fall to normal following the configuration of the "die-away" curve so familiar to physicists. It was interesting then to compare our x-ray diagnoses with our blood phosphatase findings. In 197 clinically rachitic individuals observed in the past two years where the x-rays were normal, 131 (66 per cent) had normal phosphatase levels. Among the cases considered from the x-ray to be of doubtful activity, 51 per cent had elevated phosphatase. Agreement between the x-rays and phos-

phatase of our moderate and severe rickets cases was 100 per cent, *i.e.* all showed positive x-rays and elevation of the phosphatase, though the latter was not necessarily markedly raised. With our mildly rachitic cases, according to x-ray, our agreement was 90 per cent, *i.e.* 10 per cent which were called mild rickets by x-ray (A-1 rickets) had normal phosphatase. In the group, during the healing stage, our lack of agreement between the x-rays and the serum phosphatase was also quite marked. In about 30 per cent of the cases, phosphatase was normal when, according to the roentgenogram, we felt there was still activity or at least that healing was not complete.

From our experience we feel that with the determination of the serum phosphatase, we have a method of diagnosis more accurate than those so far in use. By means of it mild cases can be detected earlier and results can be measured by a mathematical standard which will leave out the personal factor, so confusing in x-ray studies.

The treatment of rickets depends, among other things, upon the infants receiving vitamin D sufficient (20) to correct the metabolic disturbance which is producing the disease. This vitamin D may be in the form of ultraviolet light from sunlight or the so-called sun lamp, from cod liver oil or some other fish oil, or from irradiated sterols (commercial viosterol or cholesterol). Obviously, if healing is to proceed in a satisfactory manner, sufficient lime salts must be present to provide material for bone; in other words, a proper diet must be given to the patient.

We must digress at this point to clarify our ideas as to vitamin D unitage. The vitamin committee of the U. S. Pharmacopoeia (24) has been doing a very valuable and arduous work in standardizing our vitamin D unit. They have adopted as the U.S.P. standard vitamin D unit, one which is equal to the international vitamin D unit, and have expressed it in terms of a standard reference cod liver oil which is available for making comparative assays with unknown vitamin D preparations. The minimum standard for U.S.P. cod liver oil shall be that it contains not less than 85 U.S.P. or international units per gram. A tabulation of the relative value of these units is helpful: one international or U.S.P. unit of vitamin D is defined as the activity of 1/1000 mg. of standard activated ergosterol; one Steenbock unit of vitamin D equals approximately 3.1 international or U.S.P. units; one international or U.S.P. unit of vitamin D equals approximately 3.25 A.D.M.A. units; and one international or U.S.P. unit of vitamin D equals approximately (?) 3.25 Olso units.

I wish that I could tell you the exact dosage of vitamin D necessary

to produce optimum healing, but on this point, unfortunately, comparatively little carefully controlled evidence is available. It is assumed in general that two to three times the preventive dose of cod liver oil is a satisfactory dose (7, 21, 22, 23). The American Medical Association Council on Pharmacy and Chemistry, in reporting the average optimum dosage of cod liver oil (23), set up certain standards, among them being one to two teaspoons daily as a prophylactic dose, and three teaspoons daily as a curative dose. From some of our recent work in giving a dosage of about two teaspoons a day of an excellent cod liver oil as a prophylactic, I would be inclined to agree with this. However, such results would depend on the vitamin D unitage of the oil.

Thus, a few years ago, two teaspoons of cod liver oil meant about 310 U.S.P. units. Today, with the superior oils in use, it may mean 775 U.S.P. units. For treatment purposes, three teaspoons of cod liver oil might mean anywhere from 405 U.S.P. units of vitamin D per day, to 1200 U.S.P. units of vitamin D. Using a standard cod liver oil, which must deliver a minimum of 85 U.S.P. units per gram, three teaspoons of cod liver oil would contain approximately 930 U.S.P. units. Our own experience leads us to believe with others that two to three times the prophylactic dose of vitamin D as cod liver oil may be necessary for a reasonably satisfactory cure.

It is not easy to give such large amounts of oil to small babies, and we often have a problem on our hands when we attempt to administer an adequate dose of cod liver oil. Under these circumstances, one of the vitamin D concentrates should be used. If a natural vitamin D concentrate, such as cod liver oil concentrate or halibut liver oil is used, it should be given in relatively large doses. We have obtained optimum healing (7) with levels from 1200 to 3600 U.S.P. units of vitamin D per day, given as cod liver oil concentrate, the equivalent of four to twelve teaspoons of a cod liver oil yielding 310 U.S.P. units per teaspoon. There were no signs of toxicity, and good growth was maintained. We are anxious to cure rickets as rapidly as we can, thus restoring the disturbed mineral metabolism to normal, and with the rapid calcification of the bones there is a decreasing likelihood of deformity which would be apt to occur with slower healing. Some unpublished observations made more recently lead us to believe that about 3000 U.S.P. vitamin D units of cod liver oil concentrate approximates the optimum treatment dosage, and that this should be given for about one and one-half months and then reduced by about two-thirds.

If halibut liver oil is to be used (25), the unitage of vitamin D should be the same as with the cod liver oil. We must keep in mind the fact that halibut liver oil, while very rich in vitamin A, is only about twelve times (26) as rich in vitamin D as ordinary cod liver oil, and our dosage must be based on the vitamin D content.

In passing we should mention liver oil from the blue fin tuna. Bills (26) found it to be 400 times as rich in rat units of vitamin D as cod liver oil, but only 15 per cent as effective as cod liver oil for chickens.

To halibut liver oil, viosterol is sometimes added to increase the vitamin D unitage. This further complicates the picture, since evidence points to a considerable difference in the clinical effectiveness of viosterol (artificial vitamin D) from the natural vitamin D. A number of workers, Steenbock (27) among them, and very recently, Waddell (28), in a most comprehensive study, have recognized through laboratory testing, a difference in the two forms of vitamin D, a difference which we pointed out clinically in 1929 (29). Waddell has shown that while irradiated ergosterol works well as a source of vitamin D for the rat, it does poorly for the chicken. Here cod liver oil is much superior to viosterol but according to his studies, not superior to irradiated cholesterol. It is possible that we were travelling up the wrong road when we eliminated cholesterol as an impurity, and took ergosterol as the real source of vitamin D. More recently, my attention has been called to the addition of cod liver oil concentrate to halibut liver oil in place of viosterol. This will simplify our estimation of dosage, since apparently the natural vitamin D from halibut liver oil and cod liver oil is the same in effectiveness.

As previously mentioned, viosterol (irradiated ergosterol) is considered to be less efficient, when considered on the rat unit basis, than the natural vitamin D in treating and in preventing rickets in infants. Hess (30) gives as an equivalent dosage, viosterol 1860 U.S.P. units, and cod liver oil 744 U.S.P. units. On this basis, we will need a considerably larger dose of viosterol than of a natural source of vitamin D. If we accept Hess' figure, we should multiply our unitage by 2 to 2.5 to get the proper amount, if viosterol is used in place of natural vitamin D. The dosage of 250 D viosterol (31, 32) generally advised for the treatment of rickets is from 10–15 drops, up to as much as 60 drops daily.

The dangers from toxicity due to an overdose of viosterol seem to have been stressed too much. Jampolis and Londe (33) gave a daily dosage of viosterol equivalent to 20 c.c. of the 250 D preparation, and no toxic symptoms were noted. Shelling and Jackson (34) recently reported

postmortem studies of infants having received viosterol and found no damage due to the vitamin D preparation. They reported that the bone seemed of superior quality. This last statement is interesting in view of the reports of Massengale *et al.* (35), Bethke *et al.* (36), and Steenbock *et al.* (27), who respectively found in the chick that from 100, 10 to 15, and 40 to 120 times as many units of viosterol as of cod liver oil were needed to produce bones with a normal ash. A late study of Drake *et al.* (37) adds somewhat to our uncertainty, for they report that one, two, or three teaspoons of cod liver oil protected their infants equally well, three of whom developed moderate or marked rickets. Also that daily doses of 100, 200, 400, and 800 Steenbock units of vitamin D as viosterol completely protected the group receiving it against moderate or marked rickets, and that the various doses were equally efficacious.

I have been discussing something approaching the optimal dose of vitamin D in the treatment of active rickets. Rickets has been cured with considerably less vitamin D than has been recommended here as a daily dose. Smaller amounts generally require a longer period. We have had cases of rickets respond satisfactorily with 135 U.S.P. units of vitamin D per day in the form of cod liver oil concentrate in milk (38). Other workers have had similar experiences with both irradiated and so-called metabolized or "yeast" vitamin D milk. The patients involved generally had mild rickets and the healing was not so rapid as might be obtained with larger amounts. Then, too, the results are generally judged from x-ray observations, which, while satisfactory for a final answer, do not tell the whole story of the cure.

The use of ultraviolet rays in the treatment of rickets has been left until last, not because it is less valuable but, because of the expense of the apparatus, it is less readily available. Irradiation of the rachitic individual with ultraviolet light affords a rapid and therapeutically satisfactory method of treating and preventing rickets. For institutions where lamp installations can serve a large number of infants, or in homes where cost is a small item, a lamp of good quality can be used quite effectively. Just how effective many of the so-called sun lamps on the market are, is a question I cannot answer. It has been difficult for me to get much satisfactory data on lamps. Generally speaking, there is no difference between the ultraviolet light from the special carbon arc and the mercury vapor lamps, if the electrical energy used is the same. A report published in 1932 by Knudsen (39) seems quite valuable. He compared Albany winter and summer sunshine, the Victor Uviarc, the G.E. S-1, G.E. S-2,

and Mazda CX-Tungsten lights. Their relative efficiency in healing rickets in the rat was:

Victor Uviarc	1 min. per day at 3 ft.
G.E. S-1 Lamp	30 min. per day at 3 ft.
G.E. S-2 Lamp	(approx.) 150 min. per day at 3 ft.
Albany summer sunshine	90–120 min. per day.
Albany winter sunshine	4–4½ hrs. per day.
Mazda CX-Tungsten lamps 60 watt	Good healing with continuous exposure at 9″ distance.

A word of warning may not be amiss here. It has been shown that overdosage leads to a fall in the metabolic rate, in other words, depresses the body functions.

As a group you are most interested in the prevention of rickets. It had been treated with cod liver oil long before we knew of the existence of vitamin D, and is a striking example of successful empiricism in medicine. Subsequent to McCollum's discovery of vitamin D, and the recognition of its specificity in the cure and prevention of rickets, Eliot (40) showed reasonably satisfactory results in prevention, with a group of infants in New Haven, using two teaspoons of cod liver oil per day. She had no bio-assays to guide her, or to give us information as to how that amount of cod liver oil compares in vitamin D content with present day oils, many of which are more than twice as rich in vitamin D as the older oils. Her results, our own in 1928–29 (29) and many others led us to the conclusion that rickets could be prevented in most infants with around 450 U.S.P. units per day, or in terms of today's high grade cod liver oils, less than two teaspoons. Most physicians today feel that about 620 U.S.P. units, *i.e.* two teaspoons of cod liver oil, are advisable. Gerstenberger, (41, 58) among others, feels that a much smaller dose of cod liver oil, as little as two c.c. are ample for prevention, and the report of Drake *et al.* (37) supports the lower levels recommended. Some recent experience which we have had leads me to believe that this amount recommended is too small. We had moderate rickets develop in a fair amount with a daily dosage of cod liver oil considerably in excess of 2 c.c.

Just a word concerning vitamin D therapy for premature infants. It is obviously difficult to give the premature, who will need more than the regular full dose, enough vitamin D as plain cod liver oil. About twice the regular amount, *i.e.* three to four teaspoons or 930 to 1240 U.S.P. units may be needed. This would be advisable for the first few weeks

of rapid growth after which the dosage may be gradually decreased, as the growth rate approaches that of the normal full term baby, to that which the infant normally requires—approximately 600 U.S.P. units. Dosage of halibut liver oil (25) and viosterol (4, 42) are adjusted on the same basis for the premature.

It is in making these comparisons of results, particularly when conclusions are based on x-rays only, that we have so much difficulty. In 1933 we offered the suggestion, when reporting a vitamin D milk study (38), that if we were to make satisfactory quantitative comparisons of anti-rachitic substances, some standardized procedure should be followed. Eliot and Powers (43) proposed and outlined such a procedure in 1934. It emphasizes the necessity for testing anti-rachitic materials under the most rigorous conditions possible. All groups of infants should be studied in the winter, should have received no anti-rachitic treatment, should be made up of liberal proportions of susceptible races, *viz.*, Negro and Italian, and should be under two months of age when observation is begun. If such a procedure, essentially a clinical assay method for evaluating anti-rachitics, had been followed earlier, much of our present confusion would have been avoided.

Milk has in the last few years very forcibly demanded our attention as a vehicle for vitamin D, particularly as a rickets' prophylactic. It seems hardly necessary to point out the advantage of giving vitamin D milk to those infants who must be artificially fed. Cow's milk is the chief dietary substance upon which these infants must rely and it furnishes them with most of the necessities for good nutrition, but is lacking in sufficient vitamin D. In this latter respect, it does not differ from ordinary breast milk as Macy (44) and others (45, 46) have shown. Irradiation of the mother adds vitamin D to her milk (47, 48), but we did not find the daily feeding of 930 U.S.P. units of cod liver oil concentrate in milk (49) to have any appreciable effect on the rachitic infant. Neither were we able to find, by careful bio-assay, any appreciable amount of vitamin D in the breast milk. This is contrary to a previous report of Bunker *et al.* (50) and McBeath (51), who felt that a fair augmentation of vitamin D in breast milk could be obtained through the ingestion of irradiated or metabolized milk.

Regardless of our ability to alter the vitamin D content of breast milk, we know that vitamin D can be added to cow's milk. It seems in many respects an ideal place for the addition of vitamin D, since in milk it is in intimate association with an abundance of calcium and phosphorus, and since we have an automatic form of prophylactic treatment which

is not dependent on the memory of the mother or nurse. A recent report by Lewis (52) gives scientific support to this idea, for he found crystalline vitamin D more effective when mixed in milk than when given in oil.

Kramer (53) in 1925, having given irradiated milk to eight rachitic infants, reported one of the first series. Healing occurred in all and since that time the late Alfred Hess and many others have used irradiated vitamin D milk both prophylactically and as a curative agent.

The early investigators exposed their products for hours to ultraviolet rays. This, we now know, was a mistake, and really prevents the development of the maximum potency. Supplee (54) has shown that the degree of anti-rachitic potency acquired by milk, bears, up to a certain limit, a direct relationship to the amount of energy (in ergs) applied. The efficiency of this reaction is greatest during the first few seconds of exposure, and increases of energy beyond certain limits adds but little to the vitamin D content of the milk. At present, commercial milk irradiation is conducted by exposing a moving film of milk of a thickness of about 0.4 mm. to carbon arc rays for not over sixteen seconds. This produces close to the maximum vitamin D obtainable by present irradiation methods, and does not seriously alter the taste or smell of the milk. Whether the carbon arc or mercury vapor lamp is used, is unimportant, since if like amounts of electrical energy are used the results are the same. Apparently, with the present methods in use, it is possible to produce satisfactory irradiated vitamin D milk which will contain 135 to 175 U.S.P. units per quart. Irradiation beyond this produces milk with an offensive taste and odor.

The limitation of vitamin D units which can be added to irradiated vitamin D milk, and its claimed superiority as an anti-rachitic (28), unit for unit, are important points, and a veritable battle has raged between its supporters and those who felt the claim made for this 135 U.S.P. unit milk was hardly justified. The latest opinion seems to be that, unit for unit, irradiated, metabolized, or cod liver oil concentrate vitamin D milks are equally effective for infants. This is supported by Kramer and Gittleman in 1933 (55) who worked with irradiated and metabolized vitamin D milk, and by our observations reported in 1933 (38) and the balance study of Jeans and Stearns (56) with cod liver oil concentrate in milk. Gerstenberger *et al.* (57) have reported similar findings in recent studies which compared irradiated and metabolized vitamin D milk. Bethke *et al.* (58), using samples of the milks from Gerstenberger's study, brought out the interesting point that, for the chicken, the effectiveness of the irradiated vitamin D milk was of the

same order as the vitamin D of cod liver oil. On the other hand, irradiated vitamin D milk was ten times as potent for the chicken as was metabolized vitamin D milk, rat unit for rat unit. For infants, all seem to be equally effective (57, 59). There is also considerable controversy as to whether 135 U.S.P. units of vitamin D in milk are adequate to control rickets satisfactorily in the infant. A number of workers have felt that it was sufficient, but a carefully controlled experiment (60), along with other observations, has forced us to hold such judgment in abeyance. An equally well controlled experiment (61), however, did get satisfactory control using 465 U.S.P. units of cod liver oil concentrate per quart of milk. At present, the American Medical Association Committee on Foods is requiring that all vitamin D milk be labelled with a statement of the source and amount of vitamin D present.

The irradiation field is being intensively investigated and considerable progress is being made toward avoiding changes in taste and smell of the product. New devices which tend toward a better and higher unit product include the irradiation of the milk in a carbonic acid gas atmosphere, instead of air, and even the interposition of a screen of water between the milk and the light during irradiation.

Direct irradiation of the animal seemed a natural step to take in the production of vitamin D milk. Results have been contradictory and in general disappointing. Milk of a low vitamin D potency has been obtained, but the process is expensive and inefficient, and is only mentioned as we pass on to metabolized vitamin D milk, *i.e.* milk from cows fed irradiated yeast.

Milk rendered anti-rachitic by feeding cows irradiated yeast, so-called metabolized vitamin D milk, has been produced with considerably more success than by direct irradiation of the animal. Wachtel (62) in 1929, and Steenbock and coworkers (63) in 1930 were the first to increase markedly the vitamin D content of milk by feeding irradiated yeast to cows. Steenbock fed 200 gms. of irradiated yeast to cows daily, and the milk produced was highly anti-rachitic when tested on rachitic rats. Thomas and McLeod (64) conducted a most interesting experiment using irradiated yeast and irradiated ergosterol as supplements in the cows' diet. They fed levels of 10,000, 30,000, and 60,000 rat units (Steenbock) of vitamin D as irradiated ergosterol. The anti-rachitic potency of the butter fat of this milk was then measured by feeding it to rats who were on a rachitic diet, and results compared by means of the line test. Their findings, and those of other workers, showed the butter fat from cows fed irradiated yeast to be between two and three times as potent as that

from cows fed irradiated ergosterol. Clinical experience with "yeast" vitamin D milk of 496 U.S.P. unit potency has been quite satisfactory (57, 59, 65).

Just what should be our attitude relative to the use of vitamin D milks? Certainly they offer a convenient form of prophylaxis, they are practically automatic, and while we seldom see, among our better classes, the severe cases of rickets once so common, we still find a high incidence of the disease in its milder forms. Just how much it contributes to morbidity and mortality from incidental infectious diseases is hard to estimate. Surely, if we can be certain that by means of drinking vitamin D milk the infant can be protected against rickets, there is every reason to recommend it. But let us be sure first that the job can be done. Let us find out by some further comparative studies set up within the rigid standards suggested by Eliot and Powers (42) just what the optimum vitamin D level per quart of milk is. Apparently all the three commonly used methods produce milk of equal value, unit for unit of vitamin D. The question then becomes one of dosage and of cost. We can help with the former and the milk producers seem most able to cope with the latter.

A good deal has been said in a general way regarding the influence of rickets and the vitamins on the teeth. Conclusive reports (66, 67, 68) all attest to the harmful effects of rickets on the deciduous teeth. Caries was greatest among the group who had had rickets, and had apparently been lessened in its incidence among those who had had cod liver oil. Hess felt that the permanent teeth were not affected by rickets, but that vitamin D was beneficial during the entire growing period.

McBeath (69), using various types of vitamin D, felt that he obtained a measure of control of dental caries in children which was definitely significant.

A word about the use of vitamin D in other food products: there seems no objection from the physical effect, but where the dosage given the child is too small to warrant its substitution for some other source of vitamin D, it may be a harmful practice. The criticism has been made that parents who use food products in which vitamin D is incorporated, will feel that they are supplying a sufficient quantity, even though the actual amount of vitamin D ingested would be very small. Mellanby (70) offers a report which suggests to us that a different point of view might be held. She obtained best results in prevention of caries by using vitamin D with cereal-free diets. We certainly are not going to eliminate cereal from the child's diet. It may not be amiss, therefore,

to have, along with the bread, even a relatively small amount of vitamin D which does help counteract the peculiar effect of cereal in seeming to increase the susceptibility of teeth to caries.

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THE DIETARY MANAGEMENT OF URINARY LITHIASIS[1]

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EVEN though it was not until the middle of the last century that a scientific study of dietetics became possible through advances in organic chemistry and the physiology of nutrition, older writers had some knowledge of this science. Hippocrates (1), in his *Treatise on Ancient Medicine*, says that men first learned about dietetics when they were compelled to ascertain from experience the value of vegetable products as articles of food and to learn which foods were suitable in health or in sickness. By the middle of the eighteenth century great advances in chemistry had made possible a much greater knowledge of dietetics, and Letheby (2), Edward Smith (3) and Pavy (4) —all of whom wrote in the latter part of that century—were among the first to publish analyses of food and to approach the subject in a scientific manner. Since this period, the science of nutrition and dietetics has steadily advanced and all of us are familiar with the importance of the rôle of dietetics in the eradication of disease during the past century.

A study of the history of vitamins reveals the fact that the value of a well balanced diet in the prevention of deficiency diseases was recognized as early as the eighteenth century. In 1747 the British noted that scurvy could be prevented when lime or lemon juice was added to the diet of sailors on long sea voyages, and a few years later the disease was rarely seen in the British Navy. Similar observations were made by the Japanese in 1885 when they found that beriberi, which had been the scourge of the navy, could be eradicated by the substitution of barley for a part of the polished rice in the diet. Contrast with such observations the remarkable expeditions of Admiral Byrd, whose accomplishments would have been impossible had not careful planning of the diet prevented the possibility of the development of deficiency diseases among his associates!

In more recent years, the medical profession has attached considerable importance to the use of diet in the management of various diseases; in fact, some pathological conditions which formerly required surgical intervention for their cure are now treated by management of the diet, supplemented by medical therapy. We have passed the era when uncomplicated duodenal ulcers were treated surgically, and now they are managed by diet and medication.

[1] Presented before the American Dietetic Association, Cleveland, October 30, 1935.

The value of proper diet in the treatment of obesity, malnutrition, deficiency disease, nephrosis, diabetes and urinary tract infections is constantly being emphasized to our students, and examples of the efficacy of such treatment are seen daily in our hospitals. At present, adequate facilities for the instruction of patients in regard to diet are an essential unit of every medical institution, and coöperation between the physician and the dietitian is necessary before satisfactory results may be obtained. The patient should be instructed by the dietitian, whose specialized education makes it possible for her to explain the details of the prescribed diet with clarity, brevity and accuracy.

In 1931, McCarrison (5) stated that in certain parts of India urinary calculi occurred so frequently that these regions were designated as "stone areas." There, calculous disease occurs more frequently in the northern provinces than in the southern, and McCarrison found that the stone areas seemed to be localized in those regions in which a deficiency in the diet existed. It has also been observed that urinary calculi occur more frequently in southern China than in the northern part of that country. Joly (6) has stated that stone areas or calculi occur in Derbyshire and Westmoreland along the east coast of England, whereas calculi are quite rarely found in the southwestern part. Likewise, calculi rarely occur in Ireland, while in France stones are said to be prevalent in the eastern and southeastern sections, but are rarely found in Normandy.

Following personal communications from members of the American Urological Association, Holmes and Coplan (7) concluded that stone areas exist in the United States, and that calculi occur more frequently in southern Florida and in southern California than in any other part of the United States.

It has been noted, likewise, that there has been a decrease in the incidence of urinary tract calculi in the children of certain countries in recent years, and this is especially true in England and France. Joly (6) states that whereas calculous disease formerly was one of childhood, it now is one of adult life; he also found that in those countries where nutritional and dietary progress has occurred, we have been rewarded by a decrease in the incidence of calculi in children. This decrease in calculous disease in children is not, however, true for all countries. In 1900, Assendelft (8) in Russia reported that 77 per cent of the cases occurred in children under 10 years of age and that 86.5 per cent occurred in young persons under 20 years of age. Recent statistics indicate that calculous disease, in Dalmatia (9), is still one of childhood. Joly summarized his findings by stating that calculi are most prevalent among people who live on a poor and monotonous diet.

Osborne and Mendel in 1917 (10) performed necropsy examinations upon 857 rats and found urinary calculi to be present in 81, and of these, 43 per cent (35 rats) had never received butter, fat, or any food containing vitamin A. Upon further investigation, they noted that in every instance in which urinary calculi were found, the rats had been without an adequate amount of vitamin A for some time during the experiment. In 1926, Fujimaki (11) made similar observations.

During the past four years, this work has been continued in the Research Department of the Cleveland Clinic. In experimental researches dealing with dietary problems, extreme care must be taken in the preparation of the diet or a misinterpretation of results will occur. In our work, it was essential not only that the diet be deficient in vitamin A, but that the necessary proteins, fats and carbohydrates be present—as well as other vitamins and salts which are required for a normally balanced diet.

In our researches, after the rats had been on a deficiency diet for a period of 285 days, they were subjected to necropsy examination and it was found that 42 per cent of the experimental animals had renal, while 88 per cent had bladder calculi. It must be remembered that only a mild deficiency in vitamin A in the diet is permitted. If more pronounced deficiency is allowed, xerophthalmia and pulmonary complications ensue and are attended by a high mortality in the experimental animals.

After the rats had been on the diet for a period of from 5 to 7 days, the reaction of the urine became alkaline, and the pH of the urine varied from 7.2 to 8. The calculi produced experimentally were composed of calcium and magnesium phosphate with traces of carbonates, but no oxalates or uric acid were present. It is of interest to note that the calculi thus produced contained the same chemical constituents as those we see in our clinical practice in which the urinary reaction is likewise alkaline. It was then found that by altering the salt mixture in the diet, the chemical constituents of the calculi could be correspondingly changed. Further experiments on dogs and chickens, maintained on a diet deficient in vitamin A for a long period of time, showed that calculi could be produced in the same manner as in rats. In dogs, stones formed in the bladder, but at the present time no renal calculi have been produced experimentally. In chickens, renal and ureteral calculi composed of uric acid have been produced.

It was also noted that when an excess of vitamin A was added to the diet of the white rats in which calculi were demonstrable roentgenographically, these stones underwent solution and disappeared. The time

required for the solution of the stone depended upon the renal function and the presence or absence of infection.

Often it is found that observations made in the research laboratory cannot be substantiated by clinical application. However, we felt we had sufficient evidence that calculi could be produced in the experimental animal, and then dissolved, to warrant clinical application in a selected group of patients with calculous disease. It is obvious, of course, that all patients with urinary calculi cannot be treated conservatively. If a calculus is producing an obstruction, thereby rapidly injuring kidney tissue and destroying renal function, or if the patient is having frequent attacks of pain, conservative treatment by dietary measures is contraindicated; such treatment is instituted postoperatively, however, to prevent reformation of calculi which occurs in from 15 to 50 per cent of cases. Likewise, if a stone is lodged in the ureter, dietary treatment is not advisable.

Before dietary treatment is instituted, a complete urological examination is essential. A specimen of urine from the kidney containing the calculus is secured by catheterization and the pH is determined. If a calculus has been passed spontaneously or has been removed surgically, it is analyzed in the chemical laboratory. A Jean's test is also made routinely before institution of vitamin A therapy to ascertain if a deficiency in the diet can be detected clinically.

In general, two diets must be used. When the urine secured from the kidney containing the calculus is alkaline in reaction, the high vitamin A, acid-ash diet is utilized. In such cases, the stones are composed of calcium and magnesium phosphates, carbonates, and oxalates which may be precipitated in a wide range of urinary reactions. The high vitamin A, alkaline-ash diet is used in the presence of uric acid and cystine calculi which form in acid urine and are observed less frequently.

We believe hospitalization for a period of from three to five days is essential in order that the dietitian may explain to the patient the details of the diet, why certain foods are allowed and others restricted, and in order that the patient may learn to estimate the pH of the urine with accuracy. An instrument manufactured by the LaMotte Chemical Products Company is inexpensive, accurate, and simple for the patient to use. While the patients are in the hospital, a basic diet which has an excess acid- or alkaline-ash of 17.3 cc. is prescribed and this is varied daily according to the pH of the patient's urine. As in the diabetic diet, the percentage of carbohydrates, proteins, and fats in the diet are adjusted in accordance with the level of the blood sugar. Likewise, the

acid- or alkaline-ash content of the diet for the solution of calculi is controlled by the pH determination of the urine.

As I make rounds each day, the pH of the patient's urine is noted and instructions are then left for the dietitian to increase or decrease the acid- or alkaline-ash in the diet; this routine is followed until the desired pH is attained. If the acid-ash diet has been prescribed, we attempt to maintain the pH between 4.5 and 5; however, if the alkaline-ash diet is prescribed, a pH of from 7.6 to 8 is to be secured. In some instances it may be necessary to prescribe medication by mouth in order to maintain the desired pH of the urine. Vitamin A is prescribed in the form of haliver oil or carotene-in-oil capsules, usually one capsule three times daily for one month, and then the Jean's test is rechecked. If there is no evidence of vitamin A deficiency, one capsule daily is prescribed. If there is an alteration in the blood chemistry, such as a high blood uric acid, then the purines in the diet are minimized.

After the pH of the urine has been maintained for two days and the patient completely understands the routine prescribed for him, he may be discharged from the hospital. He is instructed to present the daily pH determinations of the urine to his family physician at weekly intervals, and the physician then is able to maintain the desired pH by further modification of the diet or by altering the medication by mouth. Each patient must be individualized and the closest coöperation between the doctor, dietitian, and patient is essential if a satisfactory end result is to be secured.

This same routine is prescribed after operation to prevent the recurrent formation of calculi. This is used, however, in conjunction with the other therapeutic procedures which have been employed in the past. Likewise in orthopedic patients with osteomyelitis or fractures, the high vitamin A acid-ash diet should be utilized to prevent the formation of renal calculi which are usually found in the presence of an alkaline urine.

RESULTS

Since the institution of this regimen, we have had 37 patients whose calculi have undergone solution and disappeared spontaneously. A larger series of cases is being analyzed at the present time, in which the x-ray plates sent to us by other physicians show the complete disappearance of a stone following medical management. As stated previously, all cases of renal calculi are not suitable for dietary treatment and in those cases in which surgical intervention is necessary, a dietary regimen is prescribed, following operation, to minimize the recurrence of

stone formation. Until 1932, the incidence of the recurrent formation of calculi in our cases was 16.4 per cent. Since that time, by the use of a dietary regimen postoperatively, the incidence of recurrence has been reduced to 4.7 per cent. In 40 patients who passed calculi at frequent intervals for a period of years, complete relief from symptoms has been secured for a period of more than two years.

CONCLUSIONS

1. The high vitamin A, acid- or alkaline-ash diet is indicated as a conservative treatment in a selected group of patients with renal calculi.
2. Complete relief from symptoms can be secured by dietary means in patients who pass sand or small calculi at frequent intervals.
3. Dietary treatment should be employed as a postoperative measure, in cases where calculi have been removed surgically from the urinary tract, in order to minimize recurrent stone formation.
4. The acid-ash diet should be prescribed for orthopedic patients with fractures or osteomyelitis, to prevent the formation of calculi.
5. These results may be secured only by the closest coöperation between dietitian and physician.

ABSTRACT OF DISCUSSION

FLORENCE E. BATESON, chief dietitian, Cleveland Clinic Hospital:

We dietitians always appreciate an opportunity to discuss diets, and we particularly appreciate the kind of coöperation that is demonstrated in Dr. Higgins' request that the dietary department present the diet.

The first diet used in the treatment of urinary calculi was qualitative only. The variety of foods was necessarily very limited. The excess acid-ash was variable and relatively low. After a few months' use, this original diet was revised and made quantitative as well. This revision was accomplished more than a year ago when Mrs. Alice Propst Hoover, temporarily assisting in the department, made out the present form. For the past year, Eames Harrison has been therapeutic dietitian at the Clinic and has worked directly with Dr. Higgins and with his patients who are advised to follow this dietary regimen. I have asked Miss Harrison to discuss this diet with you.

E. EAMES HARRISON, therapeutic dietitian, Cleveland Clinic Hospital:

The high vitamin, acid-ash diet is salt free and yields 17.3 cc. excess acid-ash. This, however, is usually not high enough to lower the pH of the urine to the desired point, and in such instances, the acid ash-foods are increased. It is preferable to increase the acid-ash foods rather than to decrease the alkaline-ash foods. The excess acid-ash may be increased to as high as 35 cc. After the pH has dropped to the desired point, the standard diet of 17.3 cc. is usually sufficient to maintain it there. Occasionally the pH may fall too low; 4 to 6 grams of salt may then be added

daily until the desired adjustment is reached. The patient tests the pH daily and is instructed how to make the necessary adjustments in his diet. The figures used in calculating the diet are those given in Waller's *Nutritive Value of Foods*.

The complete diet follows:

HIGH VITAMIN ACID-ASH DIET

The purpose of this diet is to furnish an adequate high vitamin diet in which the total acid-ash exceeds the total basic-ash. To accomplish this, it is absolutely necessary that *no salt* be used for seasoning foods, either in cooking or at the table.

The following *foods*, in the *amounts* designated, must be included in the diet *daily*.

A. ACID-ASH FOODS: (Minimum amounts)

I. *Cereal*—any *one* of the following measured servings (2 cc. excess acid-ash):

	Amount
Cornflakes	1 cup heaping
Cornmeal (cooked)	⅔ cup
Farina (cooked)	⅔ cup
Oatmeal (cooked)	½ cup
Puffed wheat	1 cup scant
Puffed rice	1 cup heaping
Rice (cooked)	½ cup scant
Shredded wheat	½ biscuit

II. *Meat*—any *two* of the following measured servings (12 cc. each):

	Amount
Beef, loin, med. fat	4″ x 4¼″ x ½″
Chicken, broiled	one-half
Chicken, stewed	breast or thigh plus leg
Cheese, cheddar	3½″ x 2″ x 1″
Codfish, fresh, cooked	¼ cup
Eggs	2
Frankfurters, large	2
Halibut	4″ x 2″ x 1″
Ham, fresh	4½″ x 3″ x ¼″
Heart, beef	2½″ x 3″ x 1″
Kidney, veal	⅔ cup
Lamb chop	3 med. size
Lamb roast	5″ x 5″ x ¼″
Liver, beef	3″ x 6½″ x ½″
Mackerel, fresh	2″ x 4″ x 1″
Oysters, very large	3
Pork chop, thick	1
Salmon, fresh	3″ x 4″ x ¾″
Salmon, canned	½ cup packed
Trout	2½″ x 3″ x 1″
Turkey, 2 slices	2″ x 3″ x ¼″
Veal chop	1
Veal roast	3″ x 2½″ x ¼″
White fish	2¼″ x 3″ x 1″

III. *Bread*—whole wheat—5 slices (2.2 cc. each)
IV. *Eggs*—two (5.5 cc. each)
V. *Miscellaneous*—any *one* of the following measured servings (2 cc.):

Macaroni	¾ cup
Spaghetti	½ cup
Rice	½ cup
Corn	½ cup
Plain cake	1¾″ x 1¾″ x 1¼″

B. ALKALINE-ASH FOODS: (Maximum amounts)
I. *Milk*—one pint (7.2 cc.)
II. *Cream*—¼ cup (0.3 cc.)
III. *Fruits and Vegetables*—*see* below. (Not to exceed 25 cc.)
C. CONCENTRATED VITAMIN FOODS:
I. *Yeast*—2 cakes
II. *Cod Liver Oil*—2 tablespoons; or *Haliver Oil*, 2 capsules before each meal
III. *Wheat Germ*—2 tablespoons to be added to cereal

Fruits and vegetables shall be chosen from the following lists only. Any combination of fruits and vegetables may be selected, but the total excess basic-ash in the selected combination must not exceed 25 cc. daily.

Fruit	*Amount*	*cc. of excess basic-ash*
Watermelon	2½″ x 2½″ x ½″	2.7
Grapes	½ cup or 24 grapes	2.7
Pear	1 medium	3.6
Apple	1 small	3.7
Grape juice	½ cup	3.9
Lemon juice	½ cup	4.1
Cherry juice	½ cup	4.4
Orange juice	½ cup	4.5
Raspberry juice	½ cup	4.9
Peach	1 medium	5.0
Lemon	1 medium	5.5
Banana	¾ cup or ½ large	5.6
Orange	1 medium	5.6
Cherries	¾ cup	6.1
Apricots	2 medium	6.8
Pineapple	¾ cup diced	6.8
Muskmelon	½ cup	7.5
Rhubarb	½ cup	8.6

Vegetable	*Amount*	*cc. of excess basic-ash*
Asparagus	½ cup	0.8
Green peas	¾ cup	1.3
Onions	½ cup	1.5
Pumpkin	½ cup cooked	1.5

Vegetable	*Amount*	*cc. of excess basic-ash*
Turnips	½ cup cooked	2.7
Squash	½ cup mashed	2.8
Radishes	10	2.9
Mushrooms	½ cup canned	4.0
Cauliflower	⅔ cup cooked	5.3
String beans	⅔ cup cooked	5.4
Tomatoes	½ cup	5.6
Cabbage	⅔ cup cooked; 1½ raw	6.0
Tomato juice	½ cup	6.2
Sweet potato	½ medium size	6.7
White potato	1 potato 2½″ diameter	7.0
Lettuce	¼ head or 16 leaves	7.4
Celery	4 stalks or ¾ cup	7.8
Cucumber	½ cup sliced	7.9
Rutabagas	½ cup mashed	8.5
Carrots	⅝ cup	10.8
Beets	⅔ cup	10.9

Note: A few samples of permitted fruit and vegetable combinations are:

Orange juice, ½ cup... 4.5	Apple, one..... 3.7	Muskmelon, ½ cup..... 7.5
Grapes, 24..... 2.7	Pineapple, ⅓ cup..... 6.8	Apple sauce, 1 apple... 3.7
Cauliflower, ⅔ cup.... 5.3	Peas, ¾ cup..... 1.3	Tomato, ½ cup..... 5.6
Tomato, ½ cup..... 5.6	Cabbage, ¾ cup raw... 3.0	Asparagus, ½ cup..... 0.8
Potato, 1 medium.... 7.0	Potato, one..... 7.0	Lettuce, ¼ head..... 7.4
Totals.....25.1	21.8	25.0

In addition, the following *acid* and *neutral* foods may be used *as desired.*

Acid foods	*Neutral foods*	
Cranberries	Sweet butter	Mayonnaise
Flour	Candy—no chocolate bars	Sugar
Plain cookies	Cornstarch	Tapioca
Pastry with custard or allowed amounts of fruit fillings	Lard	Tea
	Olive oil	Coffee or Kaffee Hag
English walnuts	Salad oil	Postum
Popcorn—no salt		
Unsalted peanuts		
Unsalted crackers		

The following list contains a few striking examples of foods which must be *omitted* because of their extremely high basic-ash content.

Almonds	Olives
Beet greens	Parsnips
Dandelion greens	Raisins
Figs	Spinach
Molasses	Dried fruits and vegetables

Suggested Plan of Menu	*Sample Menu*
Breakfast:	
Fruit	Grapes
Cereal and wheat germ	Oatmeal and 2 tablespoons wheat germ
Eggs, two	Scrambled eggs
Bread, whole wheat	Toast, whole wheat, 2 slices
Salt-free butter	Butter, 2 squares
Milk	Milk, ½ pint
Cream	Cream, ¼ cup
Sugar	Sugar
Beverage	Coffee
Lunch:	
Meat	Veal chop
Rice or substitute (*see* miscellaneous)	Steamed rice
Vegetable or salad	Sliced tomatoes
Fruit	Baked apple
Bread, whole wheat	Whole wheat bread, 1½ slices
Salt-free butter	Butter, 2 squares
Beverage	Milk, 1 glass
Dinner:	
Meat	Roast beef
Vegetable	Potato
Vegetable or salad	String beans
Dessert	Tapioca cream pudding
Bread, whole wheat	Whole wheat bread, 1½ slices
Salt-free butter	Butter, 2 squares
Cream	Cream
Sugar	Sugar
Beverage	Coffee

Note: One pint of milk is to be used *each day* in any form.

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FOOD CONTROL RECORDS[1]

NEVA HENRIETTA RADELL

FOOD control records have significance today as never before. Business records have always been kept; now they are not only kept but are analyzed and interpreted for the purpose of control.

No longer are we interested in records for historical reference only. Information taken from records and reports becomes the basis for establishing policies and solving problems of organization or finance, purchasing or production, and marketing or selling. A financial report is more than a group of meaningless figures, it is a story of the business.

A director of a food service enterprise can act in a more intelligent manner if he or she understands records. "The heyday of empirical business administration is over" says Sheldon. Whether the director has to keep all or part of the records, make up the periodic statements, or merely interpret the statements, a fundamental knowledge of the principles of record-keeping and statement analysis seems essential.

The simple record that is used is the valuable record. The simple system of control that functions is the valuable system. Intricate and elaborate systems seem to be passing; the trend today is toward the non-complicated and understandable. I would rather see a food director start with one record and make it vital in managing the enterprise, than see an entire system installed that did not function because of its burdensome size.

Unit costs will probably be used increasingly as a guide to the director in controlling a food service department. To arrive at the figure representing the cost per meal served, the total cost of food used for the day is divided by the number of meals served on that day. Another basis for unit costs is the patient meal. The figure representing the cost per patient meal is found by dividing the total cost of food used per day, by the number of patient meals served. Still another basis is the patient day which is found by multiplying the number representing the unit cost per patient meal by three. It is upon the result of this latter unit cost that hospital rates for meal service may be based.

Just as the rate per cent for the food cost is the important figure for control in a commercial enterprise, the unit cost expressed in dollars and cents is the important one in the control of a nutrition department of a hospital or the food service department in a residence hall.

[1] Presented to the Hartford Home Economics Association, Hartford, Conn., at a conference of food service directors, October 4, 1935.

As a basis of comparison with the operation of other residence halls, unit costs for room service and food service are valuable.

Some of the questions that food directors are asking with interest and eagerness are:

"What accounting records are used in food service departments?"

"What are the financial statements, and what do they show?"

"How would I interpret a profit and loss statement for my department or business?"

"What are food control records and reports? How can their interpretation aid me in the managing of my department?"

"If no statement is sent to me for the operation of my department, how am I to know where I stand?"

The following forms are taken from the case problems in my recent publication.[1] They may answer in part the above questions. They illustrate accounting records, financial and operating statements, a financial budget, and a food control record.

The school cafeteria cash receipts journal is used to record the receipts of cash from the two operating departments, the students' cafeteria and the faculty lunchroom. The basis for entries in this journal is the daily cash report.

The expense or right side of the income and expense journal is used to record the costs and expenses of the nutrition department. Each money column has a heading of one type of cost or expense. Entries are made from approved invoices or statements of account before they are returned to the central office for payment.

The monthly statement of costs and expenses is similar to a profit and loss statement. The monthly statement in this case, however, does not have sales or a profit; it is merely a statement of the costs and expenses less the income as recorded in the income and expense journal, from which all figures in the statement are taken.

The profit and loss statement lists the costs and expenses of an enterprise for a given month with the rate per cent for each item, showing its relation to the income from sales. It is not sufficient to know that there is a profit or a loss; the manager must know the amount of income and its source as well as the nature and amount of expenses incurred in the operations as interpreted by the rate per cent for each cost and expense.

The budget shown is a typical one for the unit costs for room service and food service in a residence hall. The food stores stock record is used for a book inventory of each single type, size and brand of food kept in the stores.

[1] *Accounting and Food Control.* New York: F. S. Crofts & Co., 1935.

Date		✓	Account, Cr.	STUDENT			FACULTY			TOTAL		
				Resale	Processed	Total	Resale	Processed	Total	Resale	Processed	Total
Oct.	7	✓	Balance $1263.58									
	8	✓	Sales	62 82	60 13	122 45	2 65	12 96	15 61	64 97	73 09	138 06
	9	✓		64 15	55 02	119 17	1 70	11 43	13 13	65 85	66 45	132 30
	10	✓		63 90	60 13	124 03	2 63	14 32	16 95	66 53	74 45	140 98
	11	✓		60 95	64 60	125 55	3 56	13 40	16 96	64 51	77 60	142 11
	12	✓		62 30	58 28	120 58	3 34	15 44	18 78	65 64	73 72	139 36
				374 20	298 86	673 06	23 34	67 15	90 49	397 54	366 01	763 55
	15	✓		66 54	55 16	121 70	1 90	13 96	15 86	68 44	69 12	137 56
	16	✓		64 10	50 14	114 24	2 78	14 07	16 85	66 88	64 21	131 09
	17	✓		64 42	54 78	119 20	2 33	12 65	14 98	66 75	67 43	134 18
	18	✓		63 70	58 27	121 97	2 09	13 88	15 97	65 79	72 15	137 94
	19	✓		61 40	63 39	124 79	2 88	10 77	13 65	63 40	74 04	137 44
				638 76	891 70	1,530 46	29 88	160 65	190 53	729 64	1,052 35	1,781 99
	22	✓		65 78	54 93	120 71	2 90	12 84	15 74	68 68	67 27	135 95
	23	✓		63 90	57 07	120 97	2 37	14 60	16 97	66 27	71 67	137 94
	24	✓		60 20	57 86	118 06	1 76	13 40	15 16	61 96	71 26	133 22
	25	✓		62 65	57 91	120 56	2 15	12 87	15 02	64 80	70 78	135 58
	26	✓		60 46	65 15	125 61	3 25	10 72	13 97	63 71	75 87	139 58
				901 77	869 15	1,771 92	37 44	162 20	199 64	939 21	1,031 35	1,970 56
	29	✓		64 98	56 72	120 50	2 65	11 74	14 39	67 43	67 46	134 89
	30	✓		63 42	61 70	125 12	2 40	14 03	16 43	65 82	75 73	141 55
	31	✓		66 35	52 14	118 49	1 85	12 78	14 63	68 20	64 92	133 12
Nov.	1	✓		65 38	53 40	118 78	1 98	14 36	16 34	67 36	67 76	135 12
	2	✓		58 69	61 55	120 24	3 12	14 42	17 54	61 81	75 97	137 78
				1,270 39	1,153 83	2,424 22	49 44	263 80	313 27	1,319 83	1,417 66	2,737 49

Cash receipts journal for a school cafeteria, using a special classification for sales

EXPENSES

19—	Explanation	Food Purchases	Payroll	Supplies	Fuel and Refrigeration	Replacement and Repairs	Miscellaneous	Total Costs and Expenses
	~~Meat brought forward~~	1 385 95	1 090 65	66 30		125 50	99 25	2 767 25
Dec. 31	John Gordon	225 25						225 25
31	Atwood & Son	45 90						45 90
31	National Dairy Co.	885 40						885 40
31	Wakefield Dairies Co.	644 50						644 50
31	Irwin Farm Products Co.	907 75						907 75
31	The U. S. Baking Co.	279 62						279 62
31	Walter Leichty Co.	410 25						410 25
31	Standard Products	329 60						329 60
31	Carleton & Carleton	10 78						10 78
31	Wages—Dec. 16-31		1 218 69					1 218 69
31	Fuel Estimate Dec. 1-31				145 97			145 97
31	Depreciation						100 00	100 00
31	Total	5 119 60	2 309 34	66 30	145 97	125 50	199 25	7 965 96
31	~~Total~~	5 119 60						7 965 96
31	Food Inventory, Dec. 1	881 43						881 43
31	Total Food Handled	6 001 03						8 847 39
31	Food Inventory—Dec. 31	297 57						297 57
31	Total Food Cost	5 703 46						8 549 82
31	Less Income—Food Sales	410 25						410 25
31	Net Cost	5 293 11	2 309 34	66 30	145 97	125 50	199 25	8 139 47

The expense side of an income and expense journal for the nutrition department of a hospital, using the accounts set up by a professional hospital association

Cost of Food									
Food Inventory December 1st			881	49					
Purchases for December		5	119	60					
Total Food Handled					6	001	09		
Food Inventory December 31st						297	57		
Total Cost of Food for December								5	703 46
Income from Sale of Food									
Out-Patient Department						241	35		
Special Functions						166	25		
By-Products						2	75		
Total Income from Sale of Food									410 35
Net Cost of Food for December								5	293 11
Payroll Expenses								2	309 34
Other Costs and Expenses									
Supplies						66	30		
Fuel and Refrigeration						145	97		
Replacements and Repairs						125	50		
Miscellaneous Expenses						199	26		
Total Other Costs Expenses									537 02
Total Costs and Expenses								8	139 47

Number of Meals Served 34,110 Number of Patient Meals 13,987

Unit Costs and Expenses

	Average Cost Per Meal Served	Average Cost Per Patient Meal Served	Average Cost Per Patient Day
Food Cost	$0.155	$0.379	$1.137
Payroll Expense	0.067	0.165	.495
Other Actual Expenses	0.016	0.039	.117
Total Costs and Expenses	$0.238	$0.583	$1.749 or $1.75

A monthly statement of costs and expenses for a nutrition department, with unit costs figured on three different bases

Account	September, 19—		October, 19—		November, 19—	
	Amount	Per cent	Amount	Per cent	Amount	Per cent
Income from Sales	2 130 60	100.0	2 345 35	100.0	2 406 70	100.0
Cost of Food	873 62	41.0	988 82	42.1	945 68	39.3
Gross Profit	1 256 98	59.0	1 356 53	57.9	1 461 12	60.7
Expenses:						
Supplies	31 90	1.5	23 95	1.0	20 95	.9
Salaries	250 00	11.7	250 00	10.7	250 00	10.4
Wages	535 70	25.2	553 60	23.6	535 70	22.3
Rent	150 00	7.0	150 00	6.4	150 00	6.2
Laundry and Linen Service	35 45	1.7	41 90	1.8	37 15	1.5
Heat, Light, etc.	69 41	3.2	76 86	3.3	79 70	3.3
Breakage	7 42	.3	7 65	.3	7 85	.3
Depreciation	23 34	1.1	23 34	1.0	23 34	1.0
Miscellaneous Expense	35 50	1.7	39 00	1.7	16 50	.7
Total Expenses	1 138 72	53.4	1 166 30	49.8	1 121 19	46.6
Net Profit or Loss	118 26	5.6	190 23	8.1	339 93	14.1

Comparative profit and loss statement for a tea room, showing the amounts and rates per cent for the income, food cost, and expenses for three consecutive months

	Total	Per cent	Room Cost Per Year	Per Operating Day		
				Hall (308 Days)	Per Room (128)	Per Capita (308)
Room Rental and Miscellaneous Income	$41,047.95	100.0	$320.96	$133.38	$1.042	$.641
Direct Expense						
Administrative Expense	5855.50	14.2	45.75	19.01	.148	.091
General Expense	4117.58	10.0	32.17	13.37	.104	.064
Operation and Maintenance	2144.47	5.2	16.75	6.96	.054	.034
Total Operating Expense	12957.86	31.6	101.23	42.07	.329	.202
Operating Profit	25075.36	61.0	195.90	81.41	.636	.391
Financial Expense	16007.59	39.0	125.06	51.97	.407	.250
	15789.12	38.4	123.35	51.26	.401	.247
Net Profit	$ 218.47	$ 0.6	$ 1.71	$ 0.71	$0.006	$0.003

	Total	Per cent	Per Operating Day		
			Hall (297 Days)	Per Capita (206)	Per Meal (3)
Board	$46,455.35	100.0	$161.89	$ .785	$ .262
Food Cost	17,700.20	38.1	61.67	.299	.100
Gross Profit	28755.15	61.9	100.20	.486	.162
Direct Expense					
Administrative Expense	12,302.35	26.5	42.86	.208	.069
General Expense	4648.77	10.0	16.18	.078	.026
Operation and Maintenance	2418.18	5.2	8.42	.040	.013
Total Operating Expense	3239.47	7.0	11.29	.054	.018
Operating Profit	22603.22	48.7	78.75	.380	.126
Financial Expense	6151.93	13.2	21.45	.106	.036
	3947.28	8.5	13.75	.066	.022
Net Profit	$2204.65	4.7	$ 7.70	$0.040	$0.014

A section of an annual budget for a residence hall treating room service and food service separately

Department of Nutrition
FOOD STORES STOCK RECORD

19—	Order No.	Unit	Price	Received	Issued	Balance	19—	Order No.	Unit	Price	Received	Issued	Balance
Nov.	Inventory	1/2 doz. cans				6							
5	632	Doz.	$1.60	60 cans		66							
6					10	56							
10					5	51							
13					10	41							
17					8	33							
25					10	23							
27					6	17							
30	Inventory Value, $11—				2	15							
Dec.					8	7							

Description: Choice Hawaiian - Small, about 50 slices

Maximum	Unit	Minimum	Signal	Section	Shelf	Article	Size
10	Doz.	1/2		C	1	Canned Pineapple	#10

A perpetual inventory of food kept in a storeroom. The sheets fit in a visible binder, and signals may be used to denote reorder

WHAT DOES IT COST TO LIVE?[1]

FAITH M. WILLIAMS

Chief, Cost of Living Division, U. S. Department of Labor, Bureau of Labor Statistics

SINCE October, 1934, the Bureau of Labor Statistics has been carrying on a new study of the money disbursements of employed wage earners and lower salaried workers throughout the United States. The first purpose of the investigation is to discover the types and quantities of goods and services purchased by this group to provide a more representative basis for the Bureau's index of changes in living costs. The index of living costs now published regularly by the Bureau is based on data collected in 1917–19 when the last nation-wide survey of family expenditures was made.

It is generally recognized that important changes in consumption have taken place since that time and many commodities now important in the purchases of the average worker are not included in the indexes at all, while other commodities less important now than in 1918 are given too much weight.

The families being studied are chosen to represent a cross section of the employed wage earners and lower salaried workers. Although the Bureau recognizes the importance of data on purchases by higher salaried clerical workers, professional persons, managers and officials, and those in business for themselves, the limited funds now available have made it necessary to confine the projects carried on this year to the wage earner and lower salaried groups.

It is important that the data which will be used as a basis for computing index numbers of the living costs of employed workers should not reflect the distorted spending of families whose incomes have been abnormally low and irregular because of unemployment. The sample studied does not include families who received relief during the year covered, or families in which there has not been at least one earner who had a minimum of three and one-half days' employment in each of 36 weeks during the year. An exception has been made in the case of families in which the chief earner is employed in an industry normally seasonal. Such families have been included if the chief earner had employment for three and one-half days in each of 30 weeks. Families with incomes under $500 a year have also been omitted from the study.

The data collected in the current investigation will not only be used

[1] Presented before the American Dietetic Association, Cleveland, October 31, 1935.

for the purpose of computing new indexes of the cost of goods purchased by wage earners and lower salaried workers, but will also be valuable in providing producers, distributors, and government agencies with information on the purchasing habits of these classes of workers at different income levels and in different parts of the country. This investigation will provide data on their actual money disbursements.

The investigation will cover more than 60 cities. Detailed information is being obtained on the amount and the regularity of the income of representative urban workers, on their purchases of goods, on other types of money disbursements (repayment of debts accumulated in previous years, investments in life insurance, and savings as such), the kinds of merchandising outlets at which they buy, the time of year at which they purchase specific goods, the kind of housing facilities they have, and the conditions under which they pay for purchased homes. From about one-quarter of the families interviewed, records of food consumption are being secured in such form as will make it possible to evaluate the nutritional content of the food consumed in relation to the needs of the families studied. A coöperative arrangement with the Bureau of Home Economics assures an analysis of these records which will show the relative adequacy of the diets of groups of families having different food habits and spending different amounts for food.

The data are being secured by the "schedule method." Interviewers visit the workers and their families with carefully prepared schedules, and obtain detailed estimates of money income and outgo during the past year. This method has the advantage of being relatively inexpensive as compared with securing personal and household accounts from a representative sample of wage earners and lower salaried workers. It also provides more accurate information than either a mailed questionnaire or a shorter schedule filled out in a personal interview that does not include enough information to make possible a balance of receipts and disbursements. The detailed data on food purchases and consumption are obtained by a weekly record kept for each family for four different seasons of the year. These accounts are being supervised by trained field workers who make daily visits to the families during the weeks when the records are kept.

The American Dietetic Association will be particularly interested in the data on food purchases and food consumption. From all the families studied, an estimate of total food expenditures is being secured. Data have so far been obtained from about 10,000 families and these data are now in the process of summarization. Each homemaker interviewed

has been asked to estimate in detail her food purchases for the week just previous to the interview. The interviewer is provided with a list of the foods customarily purchased by the family; she then checks the list with the homemaker in order to refresh her memory. After the total expenditure for this week has been computed, the homemaker is asked to estimate how her food expenditures for the year just past have varied from those of the previous week. A total food expenditure figure is thus secured which although undoubtedly subject to a margin of error for each family, has been shown by special studies to be free from any persistent bias. There is no apparent advantage to the families interviewed in either over-estimating or under-estimating food expenditures, and the errors will be, as far as we can analyze the problem, normally distributed.

The method being used in gathering data on purchases and consumption of individual foods is quite different from the method being used to secure data on total food expenditures.

Experience in other investigations has indicated that it is extremely difficult for the housewife to remember accurately her purchases of foods of different kinds for an entire year. To remember the number of weeks in which a certain food was eaten, and the average amount bought per week, is a difficult task, indeed. The Bureau of Home Economics of the U. S. Department of Agriculture compared actual household accounts with such estimates and found that there was a decided tendency for housewives to overestimate in reporting from memory on the consumption of individual foods. It was therefore decided that in the current investigation an attempt would be made to secure more accurate figures. Homemakers from whom estimates of total expenditures have been obtained are asked to keep day by day records of food purchases for a week, at each of four quarters of the year. In order that the data may be useful for studying food consumption as well as food purchases, an inventory of food on hand has been taken at the beginning and at the end of each week's record. Each coöperating homemaker has been provided with a pair of scales so that she can weigh the foods brought into the kitchen, and enter uniform and accurate figures on the record cards.

We are attempting to secure data from a representative sample of families in the wage earning and lower salaried group, and on that account we are not relying wholly on records kept by home makers who are so interested in records of food purchases and food consumption that they will keep the record for a week without encouragement. One field worker visits the coöperating families every day, checks over the record made

the day previous, for obvious omissions or inconsistencies, discusses any problem with the homemaker and leaves a new record form. So far, data have been secured from 240 families in the winter of 1934–35, and from approximately 900 families in both the spring and summer quarter of 1935. Records for the fall quarter are not yet complete and the study will continue during the current fiscal year. Data on the food purchases are being analyzed by the Bureau of Labor Statistics, and on nutritive content of the diet by the Bureau of Home Economics under the direction of Dr. Hazel Stiebeling. No report is as yet available on nutritive content of the diets recorded.

Some very interesting figures are available, however, on the percentage of family expenditures spent for food by employed wage earners and lower salaried workers in Birmingham and New Orleans. In order to compare the families in each city at different economic levels, the families studied have been classified by expenditure per consumption unit. For purposes of comparison of the kind of living possible at different economic levels, it is obviously not enough to sort families according to income. A classification merely by the total income of the family would result in a statement that a family of ten living on $2,000 was better off than a family of two living on $1,800, when it is clear that the two people in the second family have more to spend per person than the ten in the first. Nor can we divide the first family's income by ten and that of the second by two, and obtain a really representative figure. Consumption needs and habits vary with the age, sex, and occupation of the members of the family.

In classifying families as to economic status in our present study, we have used scales representing relative food expenses for persons of different age, sex, and occupation, scales of relative clothing expenditures, data on the number and type of the persons in the economic family, and the total expenditure of the family for food, for clothing, and for other items.

To find the food relatives, we have reduced all persons who eat their meals within the household, to "adult-male equivalents," using a scale which expresses the cost of food consumed by persons of different age and sex as percentages of the cost of food of an adult male of moderate activity. We arrived at the scale with the use of data secured from the Bureau of Home Economics which show estimated quantities of food consumed by persons of different age, sex and activity, based partly upon energy requirements and partly upon actual diets of the *families* of wage earners and lower salaried workers. For each family studied, we calcu-

lated the number of adult-male equivalents in terms of food cost units and divided it into the family's total expenditure for food to obtain the expenditure per cost unit or equivalent adult-male.

A comparable calculation was made of the expenditure per equivalent adult-male for clothing, and of expenditure per person for all other items together. Finally, the amount of total expenditures for one equivalent adult-male was found by adding the expenditure per consumption unit for food, clothing, and other items. This procedure makes it possible to sort families into groups who can afford a similar level of living, and to make valid comparisons of consumption habits at different economic levels.

The tabulation of data from white families in Birmingham and New Orleans has given us interesting figures. Families in both cities have been divided into those having spent less than $450 per consumption unit and those having spent $450 and over per consumption unit. Then we took families from the higher and the lower expenditure groups and paired them according to family type. Families with man, wife, and one child in the lower group were compared with families with man, wife and one child in the upper group, and so through the various family types. In Birmingham, the average family spending less than $450 per consumption unit used 36 per cent of its total expenditure for food, while the average family of similar type spending over $450 per consumption unit spent an average of 25 per cent on food. In New Orleans, a somewhat larger percentage went for food. In the lower income group, 40 per cent, and in the higher group, 32 per cent went for food in each comparison holding family type constant.

A further comparison of the expenditures of 140 families of given type and expenditure level, living in New Orleans, with 140 families of the same type and expenditure level, living in Birmingham, shows again a significant difference in food consumption habits between the two cities. It may be that a tradition of good eating inherited from French ancestors has persisted in New Orleans and has resulted in a more varied and therefore a somewhat more expensive diet. If the New Orleans families have followed the good French custom of eating many fresh vegetables and green salads, they very likely have had a more nourishing as well as a more costly diet. Data on the content of the diets of the two cities have yet to be summarized.

It will be of interest to show what expenditures are actually competing with food expenditures in these two groups of independent families.

Housing plus household operation expenditures, on the average, come

next to food, varying from 25 to 28 per cent of the total at both levels in both cities. Clothing expenditures take, on the average, from 10 to 12 per cent. In both cities, families at higher income expenditure level spend, on the average, twice as large a percentage of total expenditures on transportation as the families at the lower level. In other words, more of the families at the higher level have automobiles, are more likely to buy new, instead of second hand cars, and to drive these to a greater extent. The percentage of current expenditures spent for transportation by New Orleans families at the lower expenditure level was 5.8 per cent, and at the upper expenditure level, 10.4 per cent. The same percentages for Birmingham families are 6.9 and 12.7 per cent. It is clear that gasoline and motor oil are powerful competitors of the vitamins. The percentage spent on personal care (for toilet articles, cosmetics, barber and hairdresser) remains surprisingly constant, representing, on the average, 2.5 per cent of the total.

PRACTICAL PSYCHOLOGY FOR DIETITIANS[1]

HENRY B. ELKIND, M.D.

Medical Director, Massachusetts Society for Mental Hygiene

I INCLUDE under practical psychology the various kinds of psychological principles and practices used in dealing with people as they actually live their daily lives, in preference to abstruse or psychological laboratory notions. My ideas come from the clinic and consulting room of the physician, psychiatrist, and psychologist, as well as from the workshop and business office. As dietitians, your problems are incidental to the managing of personnel and the feeding of both the sick and the well.

As a practicing physician in my earlier professional days, I was especially interested in pediatrics and thus dietetics became an integral part of my medical thinking. Fresh out of medical school and the hospital, I was imbued with ideas emanating from the study of chemistry and physics. Formulae for babies and diets for older children were conceived largely in terms of their physical and chemical elements. All that seemed necessary was to have balanced diets and to have artificial foods closely approximate the natural. Little or no emphasis was placed on differences in social and economic factors. For instance, in the matter of weight and height tables, particularly for older children, no consideration was given to differences in racial stock and such as are due to heredity. All that was important was what went into the mouth and was consumed in the body metabolism. Then came a revolutionary change in our attitude toward diet, coincident with the discovery of vitamins.

The next and latest stage in my own experience arose out of my interest in mental hygiene and psychiatry. As I came into this field, there was a growing interest in the importance of psychological and social factors in nutrition. Nutrition had established itself as a science from the point of view of chemistry, physics, and biology, but this was too narrow a view, since it did not take into consideration the mind of man or the social milieu in which he lived. In other words, in addition to knowing the chemical and physical characteristics of food, one must know how much of the food is consumed and under what emotional and situational circumstances. The work of Cannon and his school demonstrated the effect of the emotions on the gastrointestinal tract and showed how disturbed emotions influence digestion adversely, even when the food intake

[1] Presented before the Massachusetts Dietetic Association, Boston, October 8, 1935.

is correct from the point of view of the original nutritional principles. This point of view has also been confirmed by many clinical and observational researches on children in relation to their eating habits. The relation between habits and nutrition is so very well established today that a good deal of the work of habit clinics is based upon this principle.

Dietitians know how important it is to bear in mind the preferences and prejudices, the likes and dislikes of people; how important it is for humans to be happy, to be emotionally content in order to get the most out of our food, both aesthetically and otherwise. You also know how often this principle is neglected. We seldom err in this regard when we feed our domestic animals. We never feed a horse that is overfatigued; we allow him to rest before eating, and we generally give him a quiet place to eat. With horses we do not forget the important relation between digestion and the emotions. With human beings we do our best when we know the background of our patients, and when we have understanding and insight into the emotional state of their minds.

DIETITIANS AND PERSONNEL MANAGEMENT

As dietitians, you appreciate the importance of personality and the practical use of psychology in the handling of people. Those who have the responsibility of supervising and managing personnel have the problem of overcoming difficulties with employees, and the need to understand employer-employee relationships.

The complaining employee is one problem—how may one dispose of a complaint most effectively? There are various kinds of motives and reasons for complaints, which are generally accompanied by much emotion and engendered by a strong sense of righteous indignation, and sometimes by fear, hatred, jealousy, or revenge.

Do not try to curb or restrict an employee making a complaint. This may make matters worse and arouse the fighting spirit. Allow the worker an opportunity to "get it off his chest" freely. Let him have his say, preferably in your private office. Foster this "letting off steam," as it were; encourage him to speak his mind and protect him from being overheard. After a while he usually becomes calm. If he becomes more excited, you should steer the conversation into smoother waters. Try by one device or another to evoke a smile; or tell a story that is pertinent. At any rate, do something temporarily to divert the worker's mind from his complaint. The complainant is then better able to reason, and his feelings have simmered down.

As executives you should give the impression that you wish to get at

the facts and motives involved. You should not permit yourselves to become emotionally concerned, nor appear disturbed, even though it may not be possible to make an immediate decision. You may want more facts and the worker may be impatient or unable to understand why you cannot decide then and there. If the complaint concerns another person, say to the complainant, "Now, supposing the other fellow had come to me first and told me his story. You wouldn't have wanted me to decide on his version alone, would you?"

Your decision, however, should not be delayed, but should come as promptly as possible. Further, you should create the impression when you give your decision that you have tried to be fair and that you have proceeded in accordance with the facts.

Suppose you have a stubborn employee; before acting or coming to any opinion, you must first understand the underlying cause. Sometimes he will respond and become more coöperative if you appeal to his pride. If his attitude is deliberate, it will be necessary to explain that it is impossible to have an uncoöperative employee, that you will have to dismiss him if it continues even though you would dislike to do so. Emphasize that it is not a personal matter with you, but that it is only good business to have employees coöperative.

Instead of stubbornness, you may have discourtesy. It may be that you as an employer have been discourteous. It may be best to overlook one or two unintentional instances of discourtesy, but if this becomes chronic, have a straightforward talk with the worker in question; tell him that no business can succeed with discourteous employees, again emphasizing that it is not a personal matter with you. If the discourtesy is to employees or others, it is desirable to discover if possible the underlying reason. The worker may have a so-called superiority complex—a wish to "lord it" over others. If so, show him the proper attitude. Sometimes workers are discourteous because they are irritable—they may have been overworked, or the cause may be personal to the worker. If the work is too taxing, either lighten the burden or replace the employee with a worker of greater capacity. If the cause is a personal one, then it is advisable to talk the problem over with the worker. This often results in an amazing cure; the employee feels better and a plan can often be worked out which removes the emotional stress and strain and resultant irritability.

If you have a disloyal employee to contend with, always be certain that you have a real case of disloyalty. Disagreement with policies or methods is not necessarily evidence of disloyalty. To broadcast dis-

agreements is an act of disloyalty, to be sure, but workers do not always understand this as such. To avoid any misunderstanding talk the situation over with the worker and explain the truth of the matter. If the disloyalty is definitely due to an active enmity, it is well to eliminate the individual.

What of the conceited employee? Conceit sometimes may be utilized advantageously to motivate the individual in the performance of excellent work. Again, psychiatric advice may be helpful; occasionally nothing can be done and discharge becomes necessary.

One of the most difficult and common problems is that of the dishonest employee. Not all apparently dishonest acts are really dishonest. There are, of course, the wilfully dishonest, with whom action must be prompt and impersonal. But there are many instances where the worker does not realize the degree or the consequences of his transgression.

Some employees, especially of low intelligence, may be frightened into falsehoods when questioned about an alleged misdemeanor and you may thus gain the impression that they are guilty. This should not be charged up against them. One should not place too much strain upon an employee's honesty by making it easy to steal. Every effort should be made to salvage such a worker for himself and society. Sometimes a single experience of dishonesty provides the strongest type of incentive against repetition. In every instance, try to ascertain the motivating influences underlying the misdemeanor.

Another common problem is that of immorality. This charge is often nothing but an exaggerated rumor, spread by dissatisfied or vengeful employees. One should be very careful before taking action on such complaints or rumors. Where there are strong grounds for believing the accusation to be true, lay the situation frankly before the worker in question. If the charge is admitted, there is nothing to do but dismiss him. Do this impersonally and try to help him mend his ways. Sometimes the matter is so obvious that the error can be charged to the management for hiring a questionable person. As morale has to be kept up in any group, it is advisable to place the individual in another position without loss of pay. One should charge this as an expense due to error in employment. In some of these cases the misconduct is such as to warrant psychiatric treatment.

What of the unreliable employee? Again, ascertain the cause in a particular case. Unreliability may be due to many causes—poor health is one. In this case, a physician should examine the employee. If the condition cannot be remedied, the worker should be transferred to suit-

able work. Where the condition is remediable, exert the power of personal influence to encourage the worker to coöperate. Family difficulties may be responsible for unreliability; if so, one should tell the individual of his growing ineffectiveness, and make it clear that your attitude is not critical or meddlesome, but that his job requires better work and attention. You should suggest that often family troubles or money worries bring about impaired job efficiency, that in these days one need not go without help and that a psychiatrist may be of assistance in personal problems. As a matter of fact, a number of large industrial concerns employ specially trained counselors. Such situations are very common and employers believe it to be good business as well as humanitarianism to expend money for such purposes.

There are also the difficulties due to wages. Often these can be prevented. Do not raise false hopes in your employees; if you are uncertain about the raising of a wage or salary, or cannot afford to raise wages, say so. If the person deserves an increase which cannot be afforded, tell him the reason why. If the employee is undeserving, do not summarily dismiss his request for a wage raise; his request offers you a chance to show him exactly why he is not progressing. Arbitrary denial makes for lowered morale. It is well to bear in mind that a worker is often more concerned with the relation of his wages to those of others than with the exact sum he is receiving. The fact that someone else, apparently less deserving than he, is receiving a larger wage, arouses his sense of injustice. Employees are quick to resent the employment of new workers at a starting wage in excess of that which is paid to the older employee for the same work. This is obviously unfair but sometimes happens at a period when wage levels are fluctuating greatly. If the worker has a high regard for you, he will not, in a matter of wages, think of you as being party to unfair practices. If he really likes to work for you, that in itself has a definite cash value.

Then there is the suspicious employee—termed in psychiatry the paranoid personality. This is, indeed, a difficult personality problem, which sometimes can be helped through a sympathetic talk. Often, however, such help is ineffective, and psychiatric treatment may be necessary. In many instances practically nothing can be done. When such a worker is especially valuable to the organization, adjust yourself to his personality and help other employees to do so by asking them to do all they can to help the situation.

The case of a paranoid worker who became a problem in a certain department store may be of interest. A bright appearing young girl

of 19, she was referred to me as being dissatisfied with her work and desirous of a change of job that could not be accomplished at the time. Leaving the organization was the next step, and she was sent to me for solution of her problem. She had been employed for six months in the auditing office, and her job consisted of checking and filing duplicate sales slips. After some time she noticed that she was not being treated fairly by her forelady, that she was being "picked on" and reprimanded without cause. Since she believed that she was doing her work as well as most of the others, this made her nervous and dissatisfied. Later, she began to feel that her fellow workers were not treating her fairly and that they were conspiring with a view to causing her to lose her job. She stated that she was becoming more nervous and dissatisfied. Questioning brought out the fact that her widowed mother had been ill for several months, that she was the only means of support, that a sister had been unable to find a job, and that she herself would not take any work other than an office position. She felt that work as a stock girl would be a demotion and considered it a sort of disgrace—a form of class prejudice quite common.

It did not take very long to find the prime demoralizing factor in this girl's case. She was suffering from congenital left internal strabismus, which made it difficult for her to use her eyes for fine reading. Her difficulties were interpreted to her in the following conversation:

> You have had to use your defective vision in a job where good eyesight is essential. The light is not always good where you are working, and often it is hard for you to decipher what is written on duplicate sales slips. This has made it difficult for you to do your work. Your forelady has tried to help you, but you could not see that this was necessary. You were trying to do your best and are naturally bright, and could not see why you could not do your work efficiently. This made you nervous and made you lose your balance concerning what was happening about you. You began to suspect your forelady of being too severe and, what is more unusual, to suspect your fellow workers of treating you unfairly and of conspiring against you. In my opinion, these suspicions were due to a nervous state of mind aggravated by the fact that you knew you had to work. Your sister could not obtain a position and you could not think for a moment of giving up this job which is so unpleasant to you. You would not take another position in this store where you would not have to use your eyes, for you felt that it was a disgraceful thing to do. I do not say that you thought all these things out as I have mentioned them to you, but this is how I believe you came to feel as you do.
>
> Now you must recognize the fact that you have a physical defect and that it cannot be remedied. You have told me that your own doctor, who is an eye specialist, told you this. The proper thing for you to do is to accept a position

which you can fill efficiently and satisfactorily. You must try to live down your prejudice for you are unreasonable to feel as you do about it. After all, a stock girl's job is nothing but an apprenticeship to a sales position. In department stores, where you like to work, salespeople receive the better salaries and there are opportunities for promotion to assistant buyer or buyer. The salary possibilities are much greater for salespeople than for office people.

As a result of this conversation the girl accepted a position as stock girl. After a few weeks the superintendent stated that she was doing excellent work. A week or so later it was reported that she had some paranoid ideas concerning me. She felt that I was trying to make her lose her job. She was interviewed again and the reasons for her transfer were explained in detail. She stated that she had not fully reconciled herself to being a stock girl. This was gone into at length, and she was told that the superintendent was much pleased with her work. This interview, with the encouragement offered, seemed to brighten up the girl's countenance and she went away promising to forget her prejudices in the matter. The reports about her work and her attitude following this interview were excellent.

This case illustrates how application of the principles of mental hygiene brings about a more efficient adjustment of the employee to his job and makes for salvage and a reduction in labor turnover. There was one less in the army of the dissatisfied. Another possibility, as well, was avoided; this girl might soon have developed a true psychosis. Let us suppose that she had been allowed to leave the organization and had applied for work at another department store. Undoubtedly she would have applied for clerical work again and the same train of symptoms with exaggeration would have followed. Let us imagine that this cycle of events occurred a few times. It is probable that mental disease, either a paranoid personality, paranoia or dementia praecox paranoid could have been the end result.[2]

CONCLUSION

It is well to bear in mind that in dealing with human beings, we are dealing with beings who in general are feeling beings, and that we, as humans, think less than we like to believe. We should also know ourselves as personalities, as often we are important contributing factors to a personal situation. It is helpful to understand better how humans feel under varying conditions and how man behaves and why, through a study of books on psychology and mental hygiene. Our practical psy-

[2] Acknowledgment is due the *Journal of Industrial Hygiene*, July, 1924.

chology should not be solely a common-sense psychology, or one that is purely intuitional, but should be based as well on established psychological principles and insights. We thus learn what makes us behave or misbehave as we do, the importance of personality factors and the great differences between individuals. That "One man's meat is another man's poison" is applicable not only to food but to the emotions as well.

EDITORIAL

The Significance of the Amino Acids in Nutrition[1]

Of the twenty-two amino acids which are now known, only four—namely, lysine, tryptophane, cystine and histidine—were definitely established as indispensable components of the diet when Rose and his co-workers began their investigations in 1929. Since that time it has been shown that the newly discovered methionine can replace at least a part of the cystine of the diet. The newly discovered citrulline is very closely related to arginin. It can have no real significance in nutrition, however, because citrulline is destroyed by acid-hydrolysis of protein and yet such an hydrolyzate, when supplemented with tryptophane, supports growth.

In early experiments an attempt was made to formulate a mixture of pure amino acids in order to imitate the composition of casein as much as possible. The only amino acid missing from this diet, as far as was then known, was hydroxyglutamic acid which was later found not to be essential and therefore could not have played any part in nutrition. This type of diet, carrying presumably every amino acid existing in protein, with the exception of hydroxyglutamic acid, caused animals to decrease in weight rapidly at first, followed by a period of weight equilibrium. Eventually, however, the experimental animals died. When casein or some other protein was substituted for five per cent of the effective amino acids, some growth stimulation was obtained.

Rose, therefore, divided casein chemically into groups of amino acids, using each of the fractions in the diet in five per cent concentrations, in place of protein. The results indicated that probably the activity, or the unknown component being sought, existed in the monoamino acid fraction. After making these experiments, further investigations were continued over a period of nearly three years in an attempt to purify and further fractionate the unknown component.

Eventually, Rose and his associates succeeded in separating the active fractions of proteins into two components which were temporarily designated as Unknowns I and II. The first of these proved to be isoleucine, which was not present in the original amino acid mixture in adequate amounts. There was no way in which this could have been predicted inasmuch as no data are available as to the proportions of isoleucine present in proteins.

[1] Abstract of address by W. C. Rose, Ph.D., presented before the American Dietetic Association, Cleveland, October 30, 1935.

Rose then began using an amino acid mixture which was adequate in every respect, except for Unknown II. Using this, he finally succeeded in isolating Unknown II in pure form. Every indication pointed to its being one of twenty isomeric forms of hydroxyaminobutyric acid. The problem then was to determine which one of the twenty had been isolated. It was suspected that the product was alpha-amino-beta-hydroxy-n-butyric acid. After verification by synthesis, by melting point, and by other chemical tests, it was finally determined that this unknown growth essential under investigation was alpha-amino-beta-hydroxy-n-butyric acid. The only point regarding the structure which is not yet certain is the spatial configuration around the beta carbon atom. Eventually, according to Rose, this compound will have to be referred to the structure of sugars in order to give it a satisfactory name.

According to the present classification of amino acids, eight or nine are absolutely essential: leucine, isoleucine, lysine, cystine or methionine or both, phenylalanine, histidine, tryptophane and alpha-amino-beta-n-hydroxybutyric acid.

Rose's first experiments showed that animals could survive without hydroxyglutamic acid. Later he showed that norleucine and tyrosin could be removed, then glycine, serin and citrulline. These six amino acids can be classified quite definitely as non-essential components of food for growth purposes. Experiments have been started on alanine, valine, aspartic acid, proline, hydroxylproline, glutamic acid and arginine but unfortunately, according to Rose, this work is not far enough along to warrant predictions as to the outcome. Before very long we may know definitely which amino acids are required in normal nutrition and which are not.

Once this has been established it will then be necessary to determine the amount of each that is essential, and to prepare a synthetic mixture of the essential amino acids, the composition of which is determined by the physiological need for each compound. Rose hopes to carry the experimental animals through several generations in order to avoid the possibility of a deficiency that might not show up in a relatively short experiment but which would appear in the second or third generation. It is possible, though not probable, that such may happen. There is another possibility in connection with this work. An amino acid may not be necessary for growth and yet might be necessary for certain detoxication reactions. Thus we might conceive of glycine as not being necessary for growth, but if considerable benzoic acid is included in a diet, glycine may become essential.

Rose hopes that when the theoretically ideal mixture of essential amino acid has been prepared, it may be possible to carry out certain experiments on the human organism, although this would involve enormous amounts of amino acids and considerable financial outlay.

Can Man Live on Meat Alone?

After eleven years as an Eskimo among Eskimos, Vilhjalmur Stefansson, who has written a series of articles in *Harpers Magazine* beginning November, 1935, had shed most of the food tastes and beliefs of the average American. The now famous scientific investigation of one of Stefansson's new-found beliefs is common knowledge to physicians and dietitians. Certain food truisms have been commonly accepted: "man cannot live on meat alone"; and "to be healthy you need a varied diet, composed of elements from both the animal and vegetable kingdoms". Other general concepts have been that without vegetables scurvy develops, and that salt is essential to health.

Resigning his position as anthropologist at Harvard, Stefansson became anthropologist for a polar expedition, taking along with him a lively prejudice against fish. Forced to eat this as the *piece de resistance*, as well as the beginning and end all of the meal, he insisted on having his fish baked, at least. After three months he had come to like boiled fish better and to argue that the heads were the best part. He no longer desired variety in food and ate raw fish as cheerfully as a Japanese. Fermented and slightly acid whale oil served with the fish, seemed as tasty as a "civilized" salad dressing. Only two Eskimo food practices remained to be acquired: He could not eat rotten fish and he still longed for salt with his food. The Eskimos had a pleasant habit of keeping the August catch of fish until it was downright decayed, and since there was less of the August catch, it was eaten as a delicacy, occasionally even as a kind of dessert! Stefansson likens this custom to that of the connoisseur devoted to what we might term ambulant cheeses, or the English gentry's love of "high" game. In other words, it had seemed good form to eat decayed milk products or game, so why not decayed fish? After some debating, Stefansson decided that preference for the latter need not necessarily indicate a low taste and though a bit queasy he finally found that he liked the decayed fish better than his first Camembert. In time, he found that his longing for salt seemed possibly imaginary rather than real, and he grew quite satisfied with unsalted food. According to him, he lived in the Arctic for an aggregate of more than five years, exclusively on meat (fish) and water.

Coming back to so-called civilization, Stefansson's beliefs were generally rewarded with a reception similar to the reaction of David Hume—you are likelier to meet a thousand liars than one miracle. He recounts his and Anderson's experiences during the famous experiments under Du Bois at Bellevue Hospital, New York. Their symptoms following an *incomplete* meat diet, *i.e.* lean without fat, were exactly the same as in the Arctic except that they came on faster—"diarrhea and a feeling of general baffling discomfort".

Stefansson calls attention to a conclusion of the experiment which to the medical profession seemed difficult to assimilate—that a normal meat diet is not a high protein diet. The average daily intake was about a pound and a third of lean meat and a half-pound of fat. Thus, he says, they were really getting three-quarters of their calories from fat. The one serious fear of the experimenter, a dietary shortage of calcium, was perhaps a "paper loss." Since they followed the Eskimo habit of eating fish bones and chewing rib ends, Stefansson and Anderson probably secured a fair amount of calcium.

In the final article of his series, Stefansson gives his views on scurvy, "the great enemy of explorers". Ignoring the curative means at hand "a salad of leaves or the green bark of trees", pine needles or willow bark, or the use of the native Eskimo diet exclusively—fresh meat with a goodly portion of fat—explorers used to succumb to this disease in great numbers. He refers specifically to Shackleton's expedition where dire necessity drove the members of the group to the almost exclusive use of penguin and seal. Here, in spite of lack of care and forethought, the men had a better average health than in Scott's carefully planned expedition. There was never a sign of scurvy and every man retained his full strength.

Stefansson speaks of an experience on his third expedition when certain of his men came down with scurvy through disobeying the instructions of the commander. The men had been living for two or three months, chiefly on European foods, when they were supposed to be living chiefly on meat. After putting them on a typically Eskimo diet, they made a rapid recovery.

While admitting that vitamin C is found in much higher concentration in certain vegetable elements, Stefansson emphasizes that "if you live exclusively on meat you get from it enough vitamins not only to prevent scurvy . . . but to prevent all other deficiency diseases". This would be true provided some of the meat is eaten raw or undercooked.

Continuing to wax enthusiastic over his subject, Stefansson then calls

attention to the added virtue of the native Eskimo diet in fostering healthy teeth and mouths. Not until the Eskimo began eating European foods did he, according to Stefansson, begin to develop toothache and tooth decay. While admitting that many of Stefansson's arguments are sound, his results are not entirely applicable to civilized communities. As he says "you could live on meat if you wanted to but there is no driving reason why you should. Moreover, vegetables are fundamentally economical. You can get several times more food value from an acre of corn than from the pigs that ate the corn".

In view of the many prejudices that have been held against meat, it does add to the layman's mental equipment to learn that it is possible to live on an exclusive meat diet and be well. Stefansson points out one possibly great disadvantage from an exclusive meat diet. Meat eaters do not appear to live long. Meat is, after all, a stimulating diet in the sense that metabolic processes are speeded up. Stefansson feels that this is perhaps one of the reasons for the shorter life span of Eskimoes and for their earlier maturity. To many moderns, the disadvantages of being a grandmother before the age of 23 would more than counterbalance the advantages of an exclusive meat diet.

Advertising and the Consumer

Since advertising in its broadest sense is responsible for bringing a product to the attention of the public, it is also responsible for creating good or bad will. The burden of removing consumer suspicion rests almost entirely on advertising. Effie I. Raitt[1] suggests the institution of a campaign to exploit honesty and says: "Modern business should be credited with the initiation of many movements designed to aid the customer in making better choices. In spite of these, a curious state of ignorance exists in the minds of the public in regard to the part that business plays in the protection of the customer against his own lack of information and common sense. The tendency to respond to ballyhoo and to ignore honest efforts affects both business and consumers adversely."

Apparently many consumers believe that most trade agreements are forced on business by the government for the customer's benefit. Misleading and dishonest advertising continues to counteract the consumer confidence that better business has a right to expect. Products definitely harmful and a menace to health; palliatives such as cough and cold

[1] Abstract of paper presented before the meeting of the Association of National Advertisers, Atlantic City, N. J., October 30, 1935. The original paper appeared in *Printers Ink* and a condensation in the *Journal of Home Economics*, January, 1936.

medicines offered as remedies; foods, household detergents and other commodities with magical properties; and harmful or ineffective nostrums, such as obesity cures, remedies for baldness and film-removing toothpaste—all these frauds exist today and are broadcast through every advertising medium. The wide margin between cost and selling price of some commodities also causes ill-will. Resentment from any of these causes will be likely to affect all business, honest and otherwise.

If advertisers substituted reliable information for opinion, common sense for emotion, and judgment based on facts for feeling aroused by ballyhoo, much of the consumer suspicion and resentment would be removed. If the public were better informed, its dollars would be spent on reliable articles, instead of fraudulent goods or commodities with inflated values, as is now the case. In earlier days, the practical appeal of durability and purity seemed most effective; later, appeals to love of beauty, social prestige, vanity or snobbery were employed. With the advent of keener competition the appeal is through fear, ranging from fear of social disapproval, to infections, lack of vitamins, and a seemingly endless number of physical or spiritual disasters. Miss Raitt believes that a watchword like "keep them ignorant and make them afraid" can have only one result—lack of confidence. The way is then clear for reformers who, "weak in intellect but strong in emotion", readily insinuate their propaganda into the minds of bewildered buyers. "Some of these warnings are authentic, some are not substantiated by facts, but they have caught the ready ear of a people made fearful of they hardly know what". Paradoxical as it may seem, buyers, while skeptical, are more gullible now than ever before despite the advance of science. They are often, unfortunately, skeptical of honesty and taken in by frauds. In view of all this, it is the duty of better business to develop intelligent buying by providing information in understandable form and by ceasing to tolerate fraudulent advertising. The present effective fear appeal must give way eventually to a stronger appeal to reason. Confidence can be restored if better business respects human intellect and helps the buyer to regain pride in his ability to choose wisely.

In order to present essential information, all advertising need not necessarily be a cut and dried statement of facts. Beauty of form and color, and a touch of romance are appreciated and desired. Surely, advertisers can find a way to stimulate sales without misleading exaggeration. Buyers should also be able to learn what the market provides in commodities, and when and where they are obtainable; the form, season and comparative costs in different markets; characters of different goods, their comparative values in relation to use, suitability to situa-

tions, durability and cost. In regard to foods, consumers would profit if all goods were marked plainly, such as grade of meat; score of butter; variety, grade and count of apples; reprocessed foods so marked; and uniformity of grade designated. Canned goods should carry the information as to count or size, designation of style of pack, statement of variety, strength of syrup, measure of drained contents and statement of substances added, such as salt or sugar. Most important of all, it is necessary to eliminate false and misleading claims of values as well as to protect the consumer against harmful substances in drugs and cosmetics. The following add that element of doubt, the repetition of which makes the purchaser wary: use of vague, meaningless terms such as tested, certified, approved and guaranteed, unless a reliable authority is cited; misleading terms and statements; the super-super type of nomenclature, such as extra-large, giant, jumbo, etc.; packaged goods below the ordinary unit, such as $6\frac{1}{2}$ or 7 oz. instead of $\frac{1}{2}$ lb.; distortion of scientific findings, *e.g.*, statements that fats burn in a fire of carbohydrates in order to encourage the eating of candy as a means of reducing; magical claims for food, etc.; and advertising by which the sponsors create "psychic plagues".

Business emerging from the defensive, and educators, helping to supply the basis for selective judgment lost when the economic order changed, should merge their efforts toward a common goal—a fair return for the customer and a fair deal for business.

"Hospitals"

January, 1936 saw the auspicious beginning of the new and official publication of the American Hospital Association—*Hospitals*. This will appear monthly under the editorship of Dr. Bert W. Caldwell and directed by an editorial council of a representative list of officials from leading hospitals and related organizations. With an attractive cover bearing the seal of the American Hospital Association, the first issue offers a well-diversified list of topics written by authorities in their fields. Of particular interest to dietitians is the paper "The Dietitian as Part of Hospital Administration" by Katherine Mitchell, dietitian of Michael Reese Hospital and president of the American Dietetic Association.

We congratulate the American Hospital Association on their progressive step and wish *Hospitals* a long, useful life and an everwidening field of service.

CURRENT COMMENT

The Constitution

With the passing of the 18th Annual Meeting comes the realization that our Association has reached maturity. We are no longer in the experimental stage. These years have seen an almost incredible growth in membership—from 45 to over 3,000. Due to the caliber of the membership and the quality of their work, greater prestige and recognition have come to our profession. Opportunities in allied fields are opening up more and more for qualified dietitians.

While the hospital field still claims the majority, we now find our members engaged in a variety of occupations: nutrition workers for relief agencies, food administrators, nutrition or equipment advisors to commercial organizations, and nutrition writers for newspapers and other publications. This extension of the field of work for our members has increased the number and the variety of problems studied by the four sections. The greater recognition given to our profession by members of allied fields has brought to us the request for educational exhibit material, and for help in the solution of mutual problems.

The development of affiliated state associations and of local associations presents evidence of a stronger organization.

The growth of our JOURNAL from a quarterly to a bimonthly, and the plan that it may some day become a monthly publication has thrown an additional burden of labor on our editors.

The establishment of approved courses for student dietitians, the development of three types of courses, and the desirability of periodic inspection of these courses have added to the problems with which the Executive Committee must deal.

With such a commendable growth both in the membership and in the scope of the work, it is obvious that the mechanics of the original organization need some revision.

For the past three years, and possibly longer, the Executive Committee has considered the advisability of a complete revision of the Constitution. During the years of expansion, suggestions have been made and procedures outlined by Executive Committee action. Certain of our most significant undertakings are not provided for in our present Constitution. Each year some attempt has been made by minor revisions to make our Constitution consistent with our growing activities. This is difficult to accomplish.

Three years ago, Mrs. Dodge, as President, felt the need for complete revision of the Constitution. Not in any sense did she desire a complete change in policy, but simply to work out, on the basis of our present needs, a constitution consistent with our procedures. Later, Miss Comstock, as President, appointed Mrs. Dodge chairman of Revisions. Mrs. Dodge's committee found in working on the task that the best results and the smoothest organization would be accomplished by completely rewriting the Constitution.

Because of the amount of work involved, it was not possible for this committee to present their report for discussion at the 1935 mid-year Executive Committee meeting. A very complete discussion of this report, however, was held at the Cleveland meeting of the Executive Committee. The 1934–35 Executive Committee recommended that the Revision Committee's report be submitted to the 1935–36 Executive Committee for further study. They expressed the hope that a completely rewritten constitution might be presented to the membership this year.

Ella Eck was appointed chairman of Revisions for this year, with Laura Comstock, Anna E. Boller and Margaret Ritchie as the other members of the committee. This committee used the report of the 1934–35 committee for the basis of their work, supplemented by the suggestions made at the Cleveland meeting of the Executive Committee.

Miss Eck presented the report of her committee to the mid-year Executive Committee meeting February 2. The Executive Committee considered with due deliberation each detail of the report. With some modifications the report is to be submitted to the membership for vote at the 1936 meeting.

I have gone into this rather long discussion to impress the membership with the fact that the revision which this year's committee will present to you has been worked on for several years. A complete copy of the revised constitution will be sent to each of you. I hope that it will be very carefully studied and discussed in state and local meetings.

Most of the proposed constitution is identical in policy with our present Constitution. There are one or two points of departure to which I wish to call your attention.

The Duties of the President

According to our present set-up, the membership elects five officers to the Executive Committee, one of whom is President. The President appoints the four section chairmen. The President, by appointment,

fills the vacancies on the Journal Board, the Placement Bureau Board, and the Investigation Board. She is chairman of each board and directs their activities. In addition, with the approval of the Executive Committee, she appoints the chairmen of all standing committees.

With the growth of the Association and the increasing number of committees, this seems a tremendous responsibility to place on any one individual. It is questionable whether or not so much authority should be given to any one office.

The fact that past presidents have so ably filled the office, and have given so generously of their time and their talents, does not in my opinion, justify the Association's placing such an Atlas-like burden on any one officer. There is also in my mind the question as to whether or not the Association can expect to find in any one person the versatile talents necessary for the direction of such diversified programs.

In the proposed constitution, the senior member is chairman of the Journal Board. The members of the Journal Board are chosen for their ability and interest in the JOURNAL. The senior member will have been on the Journal Board for six years. She should be most fitted and able to direct the activities of this board. The President will be a member of the board during her term of office; she will not be chairman of the board.

In like manner, the senior member of the Placement Bureau Board will act as chairman. The situation is similar to the Journal Board chairmanship and needs no further discussion.

Inspection

The importance of inspection and the wide-spread interest in the list of organizations approved by the American Dietetic Association for the training of student dietitians need no discussion here. Inspection is one of the big new projects which have developed within the last few years. It is not mentioned in our present Constitution. It has been controlled by the procedure set up by succeeding executive committees. The set-up outlined by the Revisions Committee places the direction of this educational work under the chairman of Professional Education.

The chairman of Professional Education may recommend the inspection chairman. The Executive Committee must, however, approve of her appointment. This places the responsibility of this major enterprise upon the Executive Committee, rather than upon the President. The details of procedure are not outlined in the revisions. It was felt that changing conditions might make alterations of details desirable. Only

the general procedure and placing of responsibility is outlined in the proposed constitution.

Finance Committee

Two years ago, the Treasurer asked the President to appoint the Finance Committee. This committee is made up of the Treasurer as chairman, the President, President-elect, and two members appointed by the President. The Business Manager is a member ex-officio.

The function of this committee is to set up a tentative budget for the incoming Executive Committee, and to scrutinize the quarterly financial reports. The Finance Committee advises the Treasurer and the President in regard to matters of finance. There is no mention made of the Finance Committee in our present Constitution. If we are to have a Finance Committee, its personnel should be stated and its duties outlined in a revised constitution. The Revisions Committee has drawn up such an outline.

House of Delegates

We come at last to what will probably be considered the most radical change in the proposed revisions—the creation of a House of Delegates. The following is quoted from the Revisions Committee report:

> Article II. There shall be a House of Delegates.
>
> *Section 1.* Delegates.
>
> (1) Each affiliated state association, in good standing, shall elect or appoint an active or life member to act as its official representative at the Annual Meeting. These representatives shall constitute the House of Delegates. The delegate must be an active or life member, in good standing, of the American Dietetic Association and of the affiliated state association represented.
>
> The term of office shall be two years.
>
> (2) The President, the President-elect, the Vice-President, the Secretary, and the Treasurer of the American Dietetic Association shall be voting members of the House of Delegates.
>
> *Section 2.* Organization.
>
> The chairman of Affiliation shall call the first meeting of the House of Delegates at the Annual Meeting of the Association, 1937. At this meeting the House of Delegates shall elect one of their members as chairman.
>
> Nomination shall be made from the floor and election shall be by ballot of members present. The chairman shall be elected for a term of two years and may not succeed herself. The chairman shall appoint a secretary, tellers and such other chairmen as are necessary for the conduct of business during the Annual Meeting.

Section 3. Rights.

(1) To choose the place of the Annual Meeting for 1938 and for 1939 and for each meeting thereafter for two years in advance. This decision shall be subject to the approval of the Executive Committee.

(2) To discuss all matters concerning state associations, and to present recommendations for consideration of the Executive Committee.

With the increase in number and strength of the state associations, it becomes possible to organize them into a body which may function eventually as an important factor in the government of the Association. Such a set-up gives to the state associations a purpose and a definite place in the organization of the Association.

Since the Association has increased so greatly in number of members, who are widely distributed, it becomes increasingly difficult to insure for each one the representation she should have in formulating policies and putting these into effect.

The extent of authority granted to this group by the above provision is not great. It is not much more than the creation of a forum where each state has a means of voicing its opinion. Problems can be discussed and recommendations made to the Executive Committee. The power of final decision is still left in the hands of the Executive Committee. Perhaps this should always be true, but every Executive Committee would be strongly influenced by the expressed wish of so representative a group as the House of Delegates.

In time this body might be given more direct responsibility. The chairman of the House of Delegates might have a place on the Executive Committee. This could be accomplished by having the chairman elected by the House of Delegates act as Vice-President of the national Association. At present, the duties of the Vice-President are almost negligible.

Certain of the committee chairmen now appointed by the President might in time be elected by the House of Delegates. The growth and strength of this body should be gradual, and each step carefully considered.

If in the future it seems desirable to give to this body these added powers, it may be necessary to consider ways of equalizing its membership on a basis of numerical membership representation. For example, each affiliated state association might be allowed one representative and one additional delegate for each fifty members. Details of such organization can be considered later.

The idea of a House of Delegates is not new nor is it original. A

similar organization has been used in many professional associations. A study of the constitutions of medical, dental and legal associations shows it is quite generally used. These associations have much larger membership than our Association; thus group representation is much more needed. But it is felt that our Association is ready now for some type of state representation.

Florence H. Smith recommended the formation of a House of Delegates in her presidential address in 1926. Succeeding presidents felt that the Association was not quite ready for such an organization.

It is the unanimous opinion of the Executive Committee and the members of the Revision Committee that we have now reached the point where such a body can be considered. Whether or not this plan is adopted depends entirely upon the wish of the membership.—KATHERINE MITCHELL, *President, American Dietetic Association.*

HOW DIETITIANS SERVE[1]

Federal Relief

The Foods and Nutrition Section of the Federal Emergency Relief Administration has occupied much the same position in the federal set-up that city and state home economists have held in their respective relief units. In addition it has attempted to supply relief home economists with pertinent material prepared by governmental and private agencies, and is a medium for exchange of information between state and county workers.

At some period in the existence of the FERA, every state, including the District of Columbia and Puerto Rico, has utilized the services of a home economist, either as a member of the state relief staff or as a regular consultant.

With the discontinuance of federal aid in some states, and drastic appropriation cuts in others, the nature and scope of the work tends to change. There has been increased home economics activity in some branches of the relief program. As the Resettlement Administration has taken over the task of rehabilitation of rural families on relief, home economists have been transferred to that unit from ERA staffs and other trained workers appointed. Now that the Resettlement Administration has recently added to the Washington staff several home economists with

[1] Symposium presented before the General Session of the Community Education Section, American Dietetic Association, Cleveland, October 31, 1935. The report on transient relief service in Chicago by M. Faith McAuley appeared in this JOURNAL for January, 1936.

wide experience in rural problems, rapid progress is being made in arranging for home management service in regional and state resettlement units.

The Women's Division of the Works Progress Administration has a home economist in the Washington Office, and several state directors have home economics training. Since sewing projects lead, by a large margin, all other projects for the employment of needy women, appointment to supervisory positions frequently calls for specialization in textiles and clothing as well as general administrative ability.

The coming months will be a significant period in the evolution of home economics in social service in both emergency and long-time relief programs. If the Works Progress Administration lives up to the promise of its sponsors, the end of federal aid for direct relief is in sight. In that event attention will be shifted to those residents who cannot be put to work. State legislatures will tackle that problem in 1936; they will be influenced by the policies of the Social Security Board now in the process of organization. Those of us who believe that home economics has a part in social welfare will follow developments closely, both in Washington and in our respective states.—MARJORIE M. HESELTINE, *Nutritionist, Federal Emergency Relief Administration, Washington, D. C.*

Regional Reconstruction—The TVA

With social life and educational opportunities greatly reduced, with wasted lands and forests, with unbelievably small cash incomes, and with an increasing birth rate, the region in which the Tennessee Valley Authority is established presents reconstruction problems of great concern.

Child nutrition in this region should be particularly challenging to the dietitian, for in eleven southern states live one-half of the rural white children of America and an enormous number of Negro children. Seven of the southern states fall within the region known as the Tennessee Valley. Many of these children live in the upland and mountain country where there is a decided lack of educational facilities, where the diet is very one-sided and where the cash income is too small to promote the potential possibilities of the people. Many of these are children of tenant farmers whose cash incomes are largely dependent on the price and yield of cotton, or some single crops. They make little provision for year around self-containment, and the family is forced to live on an extremely deficient diet for most of the year. Farms have been subdivided until they no longer provide sufficient cash income or labor for the workers. The average family here is something like twenty per cent

larger than that of the United States as a whole. Present birth rates indicate the farm population will continue to increase.

Under our economic system it is obvious that the total income of money commodities and services into any given area must be equal to the total outgo. The trade balance of Grainger County for 1932 shows a net deficit of $212,000. That year the state and federal government sent $91,000 of tax money into the county in excess of the tax revenue collected, county buildings depreciated by $80,000, and soil and forests were depleted by $55,000. Except through relief, or other arrangements whereby funds may flow perpetually into agricultural regions, the only permanent solution to the problem of rural purchasing power involves carrying on part of the industrial wealth producing activities at points accessible to rural population. The establishing of small industries to give a moderate amount of industrial employment in the rural counties would make it possible for the income-outgo to be balanced, as well as to absorb the surplus gainful workers from the farms.

Available electric power and modern transportation make industries in the rural communities possible. The supplementary incomes from the work in the industries would raise the standard of living, and stabilize community life through increased employment. Small rural industries would also provide a way to balance the trade of the community, and to support educational projects. Wiser use of land and forests could be widely promoted and wasted hillsides could be reclaimed. The increased purchasing power of this region might be reflected throughout the country. Nutrition would then have a chance to become the vital force in improving the health and efficiency of the people. The dietitian's participation in the reconstruction program here is largely dependent on her vision, and ability to coöperate with other workers in a joint effort toward improving the physical, social and economic life.

In the future, food rules cannot serve for the whole country. Dietitians must be able to use flexibility in setting dietary standards. The problem of fitting the products of the soil building plants and the tree crops into the local diet and food industries, and of wisely using native foods and supplementary ones for creating a better diet, offers a tremendous opportunity to the dietitian in this region.—BLANCHE TANSIL, *Consultant, Agricultural Industries Division, Tennessee Valley Authority.*

The State—Iowa

The nutrition service of the Iowa Emergency Relief Administration is a part of the social service division of that organization. This has made

close coöperation with the various county and city relief departments possible. The service rendered has consisted of the compilation of entire family budgets as well as food budgets, and the preparation and distribution of recipes and menus for low cost meals.

The Food Conservation Program has been under the direction of the state nutrition advisor and considerable assistance has been given to the Surplus Commodity Department in the distribution of the surplus foods. State staff nutritionists served with the Rural Resettlement Department. Farm families receiving assistance through this program were visited and assisted in all of the problems pertaining to family life and housekeeping in general. Special diet schedules to be used for relief patients have been established and a full-time nutritionist placed in charge of that service in our larger urban centers.

The state nutritionist has been given considerable opportunity to instruct case aides and case workers in the fundamental principles of nutrition while these persons were in training in the institute.

The food service in the transient shelters and camps has also been under the supervision of the state nutrition department. The whole service may be summed up thus: The nutrition advisor and staff of the Iowa Emergency Relief Administration has assisted all departments of that organization in any problems pertaining to nutrition or home economics. —LOLA SCHMIDT, *Nutrition Advisor, Iowa ERA*.

The State—Pennsylvania

The question of how the dietitian may serve her state depends on five serious needs. The dietitian needs greater knowledge of the practical principles of economics and sociology as applied to her community and her state. Like a problem in budget making, no matter where she may be employed (hospital, school lunch, or home-making class), she must readjust her attitudes, her techniques and her methods to changing economics based on costs, supply and demand, the effect of taxes, and the social aspects of unemployment and made employment.

Her second need is increased understanding of the new interpretation in social case work. What is the case work point of view? There was a fundamental difference between methods of approach and techniques of the home economist as compared with the social case worker. To solve this problem, enable the work to progress and make it easier for all to help, it was necessary to find out wherein that difference lay. Robinson's *A Changing Psychology in Social Case Work* gives the answer to this fundamental difference.

The third need is for practicality. How often women, just out of college, work out the food budget for a family of five on $8.00 or $10.00 a week and come into the relief office to find that in most cases, even less than one-half of that amount is given on a recurrent food grant!

The fourth need is for state leaders in home economics and dietetics to confer and make plans for state needs in health and nutrition that will result in a practical procedure acceptable to the dietitian, the relief recipient and the community.

Finally, we need to mold public opinion toward the establishing and maintaining of adequate health protection facilities. If a dietitian would serve her state, she must help form contemporary opinion.—ANNA P. K. STAPLER, *Head, Nutrition Department, State Emergency Relief Board.*

The City—Boston

One of the distinct features of the work in Boston is that the appointment of a nutritionist was not for an emergency service, but as part of an already established Department of Public Welfare. Boston has been giving out-door relief to its dependent poor for many years. Until 1932 the original level of cash relief for dependent families, established as early as 1913, was continued. In May, 1933, while Old Age Assistance and Mothers' Aid maintained their same standards, dependent relief covered only food, shelter and light. In May, 1934, the department was reorganized and a director of social service, a medical social service consultant and a nutrition consultant were appointed.

Although the customary initial step for a nutrition consultant in a public welfare department is to plan budgets and check grocery stores, this was not necessary since relief in Boston was already on a cash basis. Emphasis was placed on education of the staff as to the nutritional needs of the families, and general education was stressed in the attempt to guide future policies of the department.

Boston has no formal training course for social workers. Therefore any talks presented to them take place at staff conferences called by the supervisors in charge of the district offices and are informal. A training course in nutrition for social workers should be of two types: (1) that given in a school of social work, where education is formal and theory must be taught before application can be made; or (2) a course in an agency to workers in the field, with subdivisions, either with periods set aside specifically for training, or informal training as opportunity arises, with possibly long intervals between. The latter is the method which I

have pursued. This was necessary because of the large case load, pressure of administrative demands upon the staff and reorganization into districts.

The question of the malnourished child in relief families has developed still another method of teaching. During the past year the Board of Overseers granted additional cash to be sent by the parent to the school in order that any child judged malnourished by the school physician would have sufficient money to pay for a hot noon lunch or for a mid-morning and mid-afternoon feeding of crackers and a half-pint of milk, as served in the "rest and nutrition class." In connection with a study of this service, a form for collecting data was worked out and given to staff workers. This gave opportunity to discuss normal diet for children of school age, diet for the malnourished child, and methods of obtaining nutritional facts. After the staff workers turned in the data for analysis, suggestions as to improvements in the spending of the food money and reasons for this were indicated on the outline. These suggestions for help were then discussed with the individual staff worker and she was given printed material which would guide her in dealing with the individual family.

Teaching has also entailed the preparation of written material for staff and client, and current price lists of food stuffs.

The problem of special diets has been modified by the fact that patients attend the clinics of Boston hospitals and health units. Fortunately, there are food clinics connected with four of these hospitals, in which the special diet in relation to the family diet and the cost of diet in relation to family income, and any special diets recommended are planned. The other two large hospitals have out patient services under the supervision of the dietary department. Staff workers are encouraged to confer with the nutrition consultant on these cases and if the food for the special diet has not been incorporated in the diet for the family it is the consultant's purpose to do this and give the staff worker any further instructions. Cases referred to the consultant in medical social problems, having dietary factors complicating the medical situation, are handled in the same manner.

Aside from these services to the staff worker, there have been mothers' meetings in various districts. As far as possible, relief recipients attend mothers' club and food and health classes conducted in many of the districts by the Community Health Association. Boston is a very homogeneous community from the point of view of the nutrition worker,

since each one in the field coöperates unusually well with her professional associates.

The executive director of the Department of Public Welfare also refers certain general problems to the nutrition consultant. One of these was a study of the diet in the Temporary Home for Women. Here it was possible to evaluate the diets and their cost and plan meals for a transient group of women and children.

A nutrition service in a permanent relief organization not supported by state or federal funds, offers great possibilities. Perhaps the chief goal is to educate the taxpayer to realize the importance of raising the general level of health through the granting of adequate food allowances. The more immediate problem, naturally, is the continuation of the procedures outlined above (or better ones) for the staff worker and those in need of relief.—GERTRUDE T. SPITZ, *Case Consultant in Nutrition, Overseers of Public Welfare.*

The City—Chicago

When funds from private sources to care for the unemployed in need of relief became depleted in January 1932 and public funds had not yet been appropriated, Chicago was faced with the problem of feeding 34,000 families with no available money. Food had to be purchased on credit and a system inaugurated by which boxes containing complete rations were delivered weekly to the homes of the families. The planning and distribution of these boxes presented difficulties too obvious to require elaboration here. Those in charge of the administration of relief found themselves unable to solve these problems and appealed to the Elizabeth McCormick Memorial Fund for assistance. A part time worker was thereupon loaned to the Joint Emergency Relief Service.

Funds became available in April 1932 and rations were discontinued, but the worker remained to assist in other problems. From one part time nutritionist in 1932, the staff increased until early in 1935 there was a dietitian in each of 38 district offices in Cook County and a central office staff of eight. Because of a reduction in relief funds, one such specialist serves two offices. The nutrition service in Cook County is entirely an advisory one, coöperating with all other departments as assistance is requested.

The service plans and revises the budget schedules used by investigators and relief departments as a basis for calculating food allowances for individual families. With the aid of the district office staff, prices are collected from approximately 100 retail grocery stores and all the

leading wholesalers twice each month, and lists issued. The index of food prices is also of use to case workers in dealing with clients who complain of the inadequacy of their food budgets, invariably overestimating the rise in food prices and actually ignoring decreases.

The planning of low cost therapeutic diets for the use of clinics and doctors serving relief clients is another important phase of the work. With the assistance of the special diet committee of the Council of Social Agencies in Chicago, a series of suitable low cost diets was prepared. The normal diet outlined is based on *Adequate Diets at Minimum Cost* since this is the standard for relief in Chicago. Thus the physician is informed on the kinds and amounts of foods provided on relief budgets. All special diet requests from clinics and doctors are referred to the district office nutritionists, who compute costs and make recommendations for additions to the budgets if required. In September 1935, with an active case count of 166,920, there were 9334 special diet allowances granted. Fifty-eight per cent of these came from clinics and 42 per cent from private physicians. The majority of such diets are approved for a three months' period after which the patient is referred back to the physician and a new request is made if the diet is to be continued. The nutritionists visit all clinics and confer with doctors, dietitians and medical social workers.

The dietitians in the district offices confer with case workers and relief recipients on special problems and upon request from investigators frequently visit in homes where they can advise more adequately on special food and budget problems. Nutrition subjects and budget instructions are also presented at weekly meetings of the district staff.

No classes in nutrition or food preparation are conducted as there is a feeling in Chicago that this is not a legitimate activity of a relief office. The workers do, however, coöperate with community activities of the emergency education program and private agencies conducting classes in cooking, sewing, household budgeting, and child guidance. During one six months' period, the Elizabeth McCormick Memorial Fund conducted classes in 58 different centers in Chicago, with an approximate attendance of 20,000 relief recipients.—ADELAIDE SPOHN, *Director, Nutrition Service, Elizabeth McCormick Memorial Fund.*

THE ESKIMO AND DENTAL CARIES

I have been asked to comment on Stefansson's recent observations on the relation of diet to dental caries. Needless to say I have found them interesting and informative. We are all ready to accept as fact his

statement that persons who live on the carnivorous diet, as practised by the native Eskimo who has never adopted any of the white man's food customs, are free from tooth decay. Students of nutrition will also agree with him that such a diet is nutritionally adequate, even though several nutritive essentials are supplied in forms to which we are unaccustomed.

Several groups of workers seeking to solve the problem of the etiology of dental caries, can, from the statements presented by Stefansson, gather evidence in support of their widely divergent theories as to the cause of this disease. Others will find little to support their beliefs.

Advocates of the theory that tooth decay is caused by not chewing enough tough, hard, fibrous food, will place little credence in Stefansson's argument that the Eskimo really does not chew his food much and that his custom of chewing leather is not the controlling factor in protecting his teeth from decay. Those who believe that diets must be basic if the teeth are to be free from cavities will also have difficulty in fitting the facts about the Eskimoan diet and the Eskimo's freedom from tooth decay to their own theory.

Boyd and Drain and others who believe with them that it is the nutritional adequacy of the diet which protects the individual from caries could, of course, explain the condition of the teeth of the carnivorous native Eskimo as due to the fact that his diet provides each dietary essential. They could likewise give the reason for his susceptibility to caries on adopting the white man's diet, as due to nutritional inadequacies in this diet.

Those who believe that environmental factors have a greater controlling influence over the soundness of erupted teeth than do metabolic factors, also have excellent support in Stefansson's observations. Evidence has been submitted that lactobacilli do not infest mouths of persons eating diets lacking in carbohydrates. Advocates of the bacterial theory of the cause of dental caries can say that the Eskimo is free from tooth decay only as long as he avoids eating food on which aciduric bacteria thrive. The Eskimo apparently has no inherent protection against the growth of such bacteria in his body, for as soon as he begins to eat carbohydrate-rich food his teeth decay rapidly.

A person is truly immune to tooth decay who can eat the white man's food and still be free of caries. A small percentage of those living around us belong in this favored group. Rarely are lactobacilli found in their mouths. Sometimes, too, such persons are living on diets that are far from meeting the Boyd and Drain standard of nutritional adequacy.

At times the diets may even be almost neutral in reaction and have little hard fibrous material requiring much chewing.

Stefansson's comments are deserving of very careful thought and analysis by all interested in the relation of diet to bodily health and sound teeth. More than one type of diet is capable of supporting good health. Whenever peoples are found, living on simple diets, whose teeth are free from decay, every possible explanation should be studied. Only in this way will the ultimate truth about the relation of diet to the cause of dental caries be discovered.—MARTHA KOEHNE.

CITY SMOKE

From the standpoint of economics, to say nothing of public health, dietitians will be interested in the report on city smoke and its effects published in the January 3, 1936 issue of *Public Health Reports*. The classification of losses due to smoke is given as follows: Economic losses due to imperfect combustion of fuels; extra expense of cleaning clothes; losses due to disfigurement of residences, office buildings, factories; losses due to soiled merchandise; injuries to grass, shrubs and trees; loss of daylight and ultraviolet light; possible injurious effects on health.

The Mellon Institute of Pittsburgh in 1913 estimated that proper stoking of furnaces would save 21.7 per cent fuel and that the loss due to imperfect combustion in Pittsburgh was about $2.80 per year for each man, woman and child; dry cleaning and laundry bills were $4.10 per person; repainting, repapering and replacing hangings was estimated at $2.25 per person; soiled or ruined merchandise in stores was a loss of $3 per person; there was, in addition, a loss of daylight and increased lighting bills due to the smoky atmosphere. The losses from these sources was estimated at $12.16 per person; the total loss due to smoke in Pittsburgh during 1913 was $20 for every man, woman and child. In surveys made in New York, Chicago, Salt Lake City, Boston and Baltimore the economic loss has been estimated from $10 to more than $30 per person, per year.

The report also mentioned the injury of smoke to plants, shrubs and trees. Soot deposits on leaves interfere with their absorption of carbon dioxide from the air and also coat the leaves so that the amount of sunlight reaching them is reduced. Experiments conducted at Leeds, England, showed that in a very smoky district the growth of lettuce was only one-fourth of that in a clear district.

Both daylight and ultraviolet light are absorbed by smoke. In Baltimore the amount of ultraviolet light was 50 per cent higher in the country

than in the city, due to the absence of smoke. In Chicago on smoky days there were losses of from 51 to 43 per cent of the ultraviolet light; in Pittsburgh it was 60 per cent less than in a small residential town 12 miles away; in New York in 1927 the average loss throughout the year was 21.5 per cent, and some days it was even greater than 50 per cent; in Baltimore during 1929–30 it was 14.1 per cent and here, too, the loss on some days was greater than 50 per cent.

In 1922–33, solids from smoke and dust were deposited at the rate of 296 tons per square mile per year on one street corner in Washington, D. C. of which 154 tons were carbon and 142 tons were ash. Osaka Japan, Salt Lake City, Utah, and Washington, D. C. are almost on a level, so far as dust deposit figures for these cities are concerned.

These statements were prepared by the United States Public Health Service for the hearing on the bills for smoke control in the District of Columbia before the Congressional Subcommittee on Public Health, Hospitals and Charities.

BOOK REVIEWS

Vitamins in Theory and Practice. By Leslie J. Harris, Sc.D., D.Sc., director of the Nutritional Laboratory, University of Cambridge. New York: The Macmillan Company, 1935, pp. 230. Price $3.00.

The subject matter of a series of four lectures given at the Royal Institution in London in 1934, has been worked into the content of this helpful and authoritative book. The author's aim has been to present a readable narrative "of that truly romantic subject, the history of vitamin discovery and research." In addition, the more important findings of modern work furnish a summary of our present knowledge. While hoping to interest the lay reader, the author offers the book as well to "science students, medical men, household economists and social welfare workers."

In the chapter on the Discovery of Vitamins, Casimir Funk is paid a special tribute, not for any discoveries of his own but for his "intelligent study of the already existing medical literature." As the author points out, "the interpreter may be as useful to science as the discoverer" when he is able "to collect the evidence and discern through it all some common communicating link." Gowland Hopkins' work, published in 1912, is credited with having inspired the first really widespread and general attention to the subject of the vitamins.

Harris believes that the history of the vitamins demonstrates "the inevitability of gradualness." Each investigator gained some hint from the work of others, pushed the argument ahead, always making use of and basing his study upon the earlier discoveries of others. Thus our knowledge should be credited to the collective mind of man rather than to any single investigator.

At present, about three separate papers are published *every day* on vitamins. The thousand such published each year represent definite additions to our knowledge. Harris' chart of vitamin history, naming the first individuals to reach "the more important landmarks on the way," should be helpful to the student.

Other chapters are concerned with the members of the vitamin alphabet to date, and the characteristic results from a lack of these vitamins, with illustrations. The chapter on scurvy contains interesting quotations from the 16th and 17th century writers. That on vitamin D and rickets graphically illustrates the symptoms of rickets and discusses this condition in a most interesting fashion. The chapter concludes with methods for isolating pure vitamin D; the dosage; the extent to which this vitamin is found in common foods; how the vitamin works in the body; hypervitaminosis; and vitamin D and the parathyroid.

Harris believes that vitamin A does not influence *immunity;* in other words, when animals are deprived of vitamin A they do not lose their power to form antibodies. On the other hand, however, "if you take insufficient vitamin A you are certainly liable to develop special kinds of localized infections"; therefore, the diet should be adequate. The chapter concludes with a tabular presentation of the process for concentrating vitamin A and methods for measuring the vitamin A content of foods. Harris states that the animal's so-called infallible instinct or food conscience, which tells it which food to choose and which to reject, is less infallible than one might have imagined. In other words, the right selection of food for the animal is a matter of experience or trial and error, but not instinct. The author points to a means of combating dietary ignorance as done notably in America where "nutritionists . . . advise the public authorities as to nutritional conditions and local needs, and instruct households on the outlay of their budgets. It is to be hoped that like encouragement may be given to the new profession in this country too."

Harris' reply to the commonly met question—"Are oranges more nourishing than brown bread, or oysters than bananas?"—should be helpful to dietitians. He replies by asking another question: "If you were building a house would you rather have tiles, or window panes, or floor boards, or cement, or plaster, or girders, or rafters?"

Foods: Their Selection and Preparation. By Louise Stanley and Jessie Alice Cline. Boston: Ginn and Company, 1935, pp. 458. Price $2.60.

This book offers a happy combination of authorship. Its senior author is assurance of its scientific soundness, while its junior author offers the results of her many years' teaching experience in selection and preparation of food at the University of Missouri. It is intended as a text book for beginning courses in colleges, universities and teachers' colleges. The references at the end of each chapter have been particularly selected for undergraduate students. The book is intended "to give the college student an appreciation of both the science and the art underlying the job of providing three meals a day; a science in that nourishment must be furnished for human bodies; an art, in that this nourishment should be served in a palatable and interesting form and procured within the limits of the family pocketbook." In keeping with the times, much attention is given to the standards for the selection of food.

Unpublished tabular material by Dr. Stiebeling on restricted diet for emergency use is included. Up to date information on questions of purchasing, and the keeping and preparation of foods are given. The chapter on fruits gives detailed information on buying fruit, including the uses of each variety, and when each is available. The chapter on vegetables includes tabular information on amounts for servings and time for cooking. The chapter on cheese includes an interesting classification; that on meat contains much of the useful information that has been developed by the Bureau of Home Economics.

Laboratory Manual. By Louise Stanley and Jessie Alice Cline. Boston: Ginn and Company, 1935, pp. 140. Price $1.00.

This manual accompanies the text book, *Foods: Their Selection and Preparation.* The subject matter is developed through questions and has been used in the course in the selection and preparation of food at the University of Missouri. The primary aim is to teach the preparation and selection of food, rather than the planning of meals. Thus, the principles of food preparation can be brought out more clearly "than when an issue is confused by teaching various combinations suitable for one meal."

Foods and the Law. By Alexander P. Blanck. New York: Peter Smith, 1935, pp. 246. Price $2.50.

Due to the continued interest in food legislation and consumer education, Mr. Blanck's book appears at an opportune time. Written by a member of the New York Bar, it is a non-technical exposition of the laws of the United States dealing with foods and food products and is intended as a practical manual for the layman—"primarily the business man who deals with foods or food products." It should be invaluable as well to the dietitian and to the student. In the discussion of the United States Food and Drugs Act, many points of particular interest to the consumer are covered: what foods are deemed adulterated or misbranded; labeling requirements; and a lengthy discussion of the Meat Inspection Act, including methods of examining meat food products. A complete text of the Food and Drugs Act, as amended to date, appears, as well as definitions and standards for food products up to August 1, 1933. The subject of canned foods is covered in detail as well as the rules and regulations of the Bureau of Agricultural Economics governing the grading and certification of butter, cheese, eggs and dressed poultry.

Infant Nutrition. A Textbook of Infant Feeding for Students and Practitioners of Medicine. By Williams McKim Marriott, B.S., M.D. St. Louis: The C. V. Mosby Company, Second Edition, 1935, pp. 431. Price $4.50.

A review of the first edition of this book appeared in this JOURNAL for September, 1930. The many advances in the knowledge of infant nutrition during the intervening five years have necessitated its complete revision, the almost complete rewriting of certain chapters such as the one on vitamins, and the addition of a chapter on allergy. Written by an authority in his field, whose sound

scientific judgment and practical experience is well known, this volume may be unquestionably recommended.

The first seven chapters detail the nutritional requirements of the infant. Then follows a simple, yet excellent summary of the nutritional requirements, a discussion of digestion in infancy and of the various types of feeding both normal infants and difficult feeding cases. Chapters on constipation, allergy, prematurity and common infections associated with nutritional disturbances, rickets, tetany and scurvy follow.

Feeding College Students on a Coöperative Basis. By Bessie Brooks West. Division of Home Economics, Bulletin No. 8. Kansas State College Bulletins, Vol. 19, No. 7, July 1, 1935.

The growth and popular acceptance of coöperative enterprises indicate that these are likely to remain as permanent types of student living in colleges and universities. This bulletin, coming as it does from a college where these projects have been successfully operated for some time, is a valuable addition to the limited published information on coöperative units.

The bulletin presents a concise picture of the organization and management of the two coöperative projects conducted at Kansas State College. The residence hall accommodates 100 students and is serviced entirely by the residents except for the employment of two men students for heavy work. Ten students serve as supervisors, pantry managers and stenographers. The other ninety form six groups which rotate each week with every sixth week free. The work of the five groups is office work, housekeeping activities, and the preparation and service of breakfast, luncheon and dinner. The successful operation of a coöperative unit depends largely on the wise planning and careful supervision of work. In this project it is evident that every opportunity is taken to establish and maintain high standards throughout and to make it an educational experience as well as a financial gain to the student.

The practice of students working for their meals is not new but this plan of operating a coöperative food service concurrently with the regular cafeteria service is a novel one. The plan covers a period of four weeks; meals, excluding Saturday night and Sunday, are furnished these students for $9 and 12 hours of work. Meals are planned by the Department of Institutional Economics and prepared by the regular cafeteria cooks, at a raw food cost of approximately 80 per cent of the cash payment. The project is of importance to the college as a means of self-aid to the students, but is considered of greater significance in its effect on student health and well-being. Both of these projects afford valuable training and experience for institution management students. Those operating coöperative units or contemplating similar projects will welcome this description which includes the records and forms used in the residence hall and food service.

The third section of the bulletin presents the plan for sorority and fraternity food service in practice in this college. The services of a food director for planning the menus, purchasing supplies, supervising the preparation to a limited extent and keeping records are made available through the Institutional Economics Department. This plan is a step forward in insuring an adequate diet and bettering the dietary conditions in these small units.—GRACE M. AUGUSTINE, *Institution Management, Teachers College, Columbia University.*

Wine and Dine with the Lake Roland Garden Club. Baltimore: Maryland Spectator Press, 1935, pp. 236.

This is a collection of varied and interesting information on food and accompaniments, written by a number of people whose habitat, Baltimore, remains one of the centers for sophisticated dining. The chapter on the Art and Science of Dining was prepared by Phyllis Dawson Rowe, head of the Dietary Department of the Johns Hopkins Hospital. Prepared in convenient loose leaf form, this book is a commendable aid to the amenities of living.

Scientific Dieting. Feeding the Family on a Small Income. By Violet E. Hastings,

L.R.C.P. and S. New Zealand: 249 Ponsonby Road, Auckland, W. I., 1935, pp. 28.

This booklet quotes liberally from the writings of McCarrison, McLester, Sherman, McCollum and Mellanby, and from the British Medical Association's Report of the Committee on Nutrition. It is written with the object of showing by what standards a diet is judged to be adequate. A list of weekly diets for adults and children is given.

Food Values at a Glance and How to Plan a Healthy Diet. By Violet G. Plimmer. New York: Longmans, Green and Co., 1935, pp. 94 and 37 charts in color and black and white. Price $1.50.

This is an interestingly written and engagingly charted book intended to show graphically the nature of each foodstuff "at a glance." According to the author, "valuable facts lie buried in columns of figures relating to chemical analyses of foodstuffs. Figures are such dead things until we can graphically visualize them. If the various constituents of a food were distinctively coloured like the layers of a Neapolitan ice and branded with their vitamin content, then the nature of each foodstuff could be seen at a glance." The book covers such subjects as the purposes of food, malnutrition, quantity of food required, composition of the standard diet, and catering for schools and institutions. While much of the information on foodstuffs is more suitable for English digestion, the method of presentation and factual information in general will be of interest to others as well.

Nationality Recipes. Compiled by Eleanor F. Wells. Rhode Island: Y. W. C. A., Providence, 1935, pp. 75. Price 55 cents.

This is a compilation of Armenian, Austrian, Chinese, Danish, English, French, German, Greek, Hungarian, Irish, Italian, Indian, local American and many other recipes of various countries. Dishes of other lands which may be prepared easily in American homes and those which are not commonly known are included.

CURRENT LITERATURE

American Journal of Digestive Diseases and Nutrition

Vol. 2, December, 1935

*Present conceptions of calcium metabolism. D. L. Thomson.—p. 614.

*The rôle of vitamin B_1 in tonus of the large intestine. M. I. Sparks and E. N. Collins.—p. 618.

Vol. 2, January, 1936

*Psychogenic factors in ulcerative colitis. A. J. Sullivan.—p. 651.

*Some normal variations in the emptying-time of the human stomach (using a carbohydrate meal). E. J. Van Liere and C. K. Sleeth.—p. 671.

CALCIUM METABOLISM. The stores of calcium in the bones are readily accessible. They may be added to or drawn upon, depending on the physiological circumstances. Skeletal calcium serves to maintain the serum calcium concentration within normal limits. The dog is able to make good sudden loss of 45 per cent of its total serum calcium within 20 minutes, and to do so repeatedly, an indication of the lability of the calcium stores in the skeleton. Calcium salts administered intravenously have a sedative action upon intestinal colic and are sometimes successful in the treatment of allergic manifestations. Calcium salts also exert a certain sedative action, both central and peripheral, which has led to their use in such spastic states as are produced by spider bites.

VITAMIN B_1 IN TONUS OF THE LARGE INTESTINE. Roentgen studies including both fluoroscopic and film examinations, as well as volume capacity determinations of the colon, were made on adult rats which were fed diets deficient in vitamin B_1. The volume of the colons of rats maintained on this diet for two months increased strikingly in 70 per cent of the animals. No such change occurred in a control group maintained on a complete synthetic diet.

ULCERATIVE COLITIS. Psychogenic factors were prominent in the etiology of fifteen cases of ulcerative colitis and frequently were the main causative factor in the disease. Psychotherapy in most cases produced striking results when other forms of therapy had failed.

EMPTYING-TIME OF HUMAN STOMACH. The normal emptying time of the stomach of 9 young adult males was determined fluoroscopically, under carefully controlled conditions. The average emptying-time for the carbohydrate meal was 2.07 hours with extremes at 1.03 and 2.81 hours respectively. The emptying time of the stomach of any individual remained strikingly uniform from day to day.

American Journal of Nursing

Vol. 36, January, 1936

*Psoriasis and acne vulgaris. M. G. Reilly.—p. 9.

PSORIASIS AND ACNE VULGARIS. The different schools have advocated limiting the diet and all claim improvement in the skin condition. White and Cummins have demonstrated the value of low carbohydrate diet; Schomberg has had equally good results in restricting the protein content. The newest approach follows a suggestion from the Germans that fats may be the responsible agent. Conservative dermatologists are content to place most patients on well balanced meals, restricting excesses only. The use of sunshine and ultraviolet light in the treatment of psoriasis cannot be too highly recommended because it builds up the resistance of the individual and of the skin.

American Journal of Public Health

Vol. 25, December, 1935

*Present status of the vitamin B complex. C. A. Elvehjem.—p. 1334.

*Vitamin content of important foods in the child's diet. C. R. Fellers.—p. 1340.

VITAMIN B COMPLEX. The so-called vitamin B complex consists of at least five factors, B_1, B_2, B_3, B_4, and flavins. More work is necessary before definite human requirements of this substance can be determined.

THE CHILD'S DIET. The Massachusetts State College furnishes experimental proof

that the modern choice of foods for infants and young children, so far as vitamins are concerned, is well founded. Pasteurization and homogenization have no effect on the vitamin D potency of milk. Fresh and canned citrus fruits, tomatoes, and certain apple varieties, as well as their juices, are excellent antiscorbutics. Grapes, grape juice, peaches, cherries, prunes, pears and certain varieties of apples are poor sources of vitamin C. During a short cooking period, peas, asparagus, lima beans, and spinach lose 40 to 80 per cent of the vitamin C. Cooked, frozen vegetables are slightly lower in vitamin C than fresh cooked, but considerably higher than the canned vegetable which has been heated for the table.

Annals of Internal Medicine

Vol. 9, December, 1935

*Vascular disease in the obese diabetic, and in non-diabetics; a discussion of arteriosclerosis as a cause of diabetes. E. C. Beck, J. G. Fowler, E. C. Koenig and B. D. Bowen.—p. 662.

*Studies relating vitamin C deficiency to rheumatic fever and rheumatoid arthritis; experimental, clinical and general considerations. II. Rheumatoid arthritis. J. F. Rhinehart.—p. 671.

*Blood cholesterol in disturbances of the basal metabolic rate. L. C. McGee.—p. 728.

VASCULAR DISEASE IN OBESE PATIENTS. Calcification of the lower extremities is essentially absent in early diabetes and in obese people, some of whom are potential diabetics. No evidence was found to show that hypertension or retinal arteriosclerosis could be correlated with the obese patient's ability to use glucose. Sclerosis of the pancreatic vessels is probably responsible for diabetes in older people.

RHEUMATOID ARTHRITIS. Subacute or chronic vitamin C deficiency in the guinea pig produces an arthropathy with manifold similarities to rheumatoid arthritis. Experimentally, infection in the presence of adequate vitamin C nutrition failed to produce arthritis. Clinical data show that nutritional habits are frequently imperfect preceding the onset and during the course of rheumatoid arthritis.

BLOOD CHOLESTEROL AND DISTURBANCES OF BASAL METABOLIC RATE. In 145 patients having the plasma cholesterol and metabolic rate determined concomitantly, there was no suggestion of correlation between the two.

Archives of Pediatrics

Vol. 52, December, 1935

*Effects of insulin on malnourished children. S. L. Ellenberg.—p. 793.

*The use of iron therapy by the normal individual for the prevention of sunburn. H. L. Eder.—p. 833.

*Human milk for human babies. O. B. Cordua.—p. 845.

INSULIN IN MALNOURISHED CHILDREN. Undernourished children show the effects of insulin therapy by increased body tone, improved tissue turgor, better color, greater activity and vigor, and a keener interest in their surroundings. The appetite in these malnutrition cases may be sharpened with the use of insulin, but a gain of weight does not always follow. Insulin therapy deserves a trial because of its apparent beneficial effect on the general metabolism.

IRON THERAPY AND SUNBURN. Good tissue nutrition, which necessitates a large intake of iron, is a means of building up a resistance to the sun's rays and also proves beneficial to the general well-being and appearance. The modern diet, containing many processed foods, does not supply sufficient iron. The addition of iron in supplement to the diet is a means of avoiding tissue starvation. Infants should be placed on iron therapy when sunbaths are begun. This early institution of iron therapy has proved a means of avoiding freckles.

HUMAN MILK FOR BABIES. An investigation into the case histories of 100 mothers and 100 infants reveals the fact that the baby who is breast fed has almost a 50 per cent better immunity than has the artificially fed infant. Every child has a right to a food supply provided by Nature. Mother's milk is free from contamination and is of high digestibility. The breast fed infant is stronger and better able to resist disease than is the artificially fed infant.

Journal of Biological Chemistry

Vol. 112, December, 1935

*The serum calcium response to ingested calcium. S. Freeman, E. R. Kant and A. C. Ivy.—p. 1.

*The influence of the ingestion of raw pancreas upon the blood lipids of completely depancreatized dogs maintained with insulin. I. L. Chaikoff and A. Kaplan.—p. 155.

*Further studies pertaining to provitamin D of plant and animal sources. R. M. Bethke, P. R. Record and O. H. M. Wilder.—p. 231.

Studies of the acid-base balance of the blood. IV. Characterization and interpretation of displacement of the acid-base balance. N. W. Shock and A. B. Hastings.—p. 239.

*Feeding experiments with mixtures of highly purified amino acids. VIII. Isolation and identification of a new essential amino acid. R. H. McCoy, C. E. Meyer and W. C. Rose.—p. 283.

*Studies on magnesium deficiency in animals. VII. The effects of magnesium deprivation, with a superimposed calcium deficiency, on the animal body, as revealed by symptomatology and blood changes. H. G. Day, H. D. Kruse and E. V. McCollum.—p. 337.

*The effect of ingested fat on the sterol metabolism of the white rat. H. C. Eckstein and C. R. Treadwell.—p. 373.

Vol. 112, January, 1936

*The question of the utilization of tryptophane administered subcutaneously. V. DuVigneaud, R. R. Sealock and C. Van Etten.—p. 451.

*Phosphatase content of blood serum and tissues in the rat following administration of vitamins D and A. P. D. Crimm and J. W. Strayer.—p. 511.

*The isolation of pectic substances from wood. E. Anderson.—p. 531.

*The enzymatic synthesis from thyroid diiodotyrosine peptone of an artificial protein which relieves myxedema. W. T. Salter and O. H. Pearson.—p. 579.

The influence of feeding amino acids and other compounds on the excretion of creatine and creatinine. M. Bodansky.—p. 615.

EFFECT OF CA INGESTION ON SERUM CA. The serum calcium elevation 2 hours after administration to normal fasting persons of 2.3 gm. of calcium chloride or 10 gm. of calcium gluconate was between 5 and 6 per cent. Daily ingestion of calcium chloride for a month did not influence the serum calcium response of eleven normal adults to this amount of calcium.

RAW PANCREAS EFFECT ON BLOOD LIPIDS. The level of the blood lipids of the completely depancreatized dog maintained with insulin can be strikingly influenced by the presence and absence of raw pancreas in the diet. When such animals are fed a diet containing none of the glandular tissue, a drop in the lipid concentration of the blood sets in soon after pancreatectomy. The removal of raw pancreas from the diet at a time when high blood lipid levels had been produced by its ingestion, resulted in a rapid and pronounced drop in blood lipids.

PLANT AND ANIMAL PROVITAMIN D. The vitamin D of irradiated cholesterol is more efficacious in preventing rachitic manifestations in chicks than the rat unit equivalent in irradiated ergosterol or in calciferol which are of the same order of efficiency. The provitamins of animal and plant products are not identical since the vitamin D from irradiated animal products was more efficient antirachitically for chicks, than was vitamin D from irradiated plant products.

EFFECT OF FEEDING AMINO ACIDS. The hitherto unknown growth essential has been isolated in pure, crystalline form and identified as alpha-amino-beta-hydroxybutyric acid. With an otherwise adequate diet, approximately 0.6 per cent of this growth essential is the minimum amount necessary to induce maximum growth. This is the first successful attempt to rear animals on a ration containing purified amino acids as the sole source of nitrogen.

MG DEFICIENCY IN ANIMALS. The symptomatology and blood chemical changes have been observed in young dogs receiving a diet deficient in both calcium and magnesium. The dietary deficiency is manifested by edema, gastrointestinal disturbance with alternate constipation and diarrhea, marked inertness, anorexia and other symptoms. The serum magnesium and serum calcium diminished considerably. Nutritive failure was more pronounced in the magnesium-calcium deficiency than in magnesium restriction alone.

STEROL METABOLISM IN RAT. The amounts of sterol in the livers of growing white rats are

greater when the percentage of corn or soy bean oil in their diets is increased.

UTILIZATION OF TRYPTOPHANE. In contrast to previous reports, it has been demonstrated that tryptophane injected subcutaneously can be utilized.

PHOSPHATASE OF BLOOD AND TISSUES. The serum of rats contains 49.11 units of phosphatase per 100 cc. of blood which is approximately 20 times the amount usually found in normal human serum. Massive doses of viosterol caused an increase in the phosphatase content of the small intestine. Vitamin A deficient rats and rats fed high doses of vitamin A showed reductions of phosphatase in their respective sera. This is apparently due to the greatly impaired nutrition of the animals.

PECTIC SUBSTANCES FROM WOOD. Pectic substances have been isolated from the cambian layer and from the sap-wood of black locust. Some of these materials are similar in composition to the pectinic acids. Other pectic materials closely resembled polygalacturonic acid were obtained from commercial citrus pectin.

ARTIFICIAL PROTEIN RELIEVING MYXEDEMA. Diiodotyrosine was found clinically to relieve myxedema as effectively as thyroglobulin in equivalent iodine dosage.

Journal of Nutrition

Vol. 10, December, 1935

*Metabolism of women during the reproductive cycle. VI. A case study of the continuous nitrogen utilization of a multipara during pregnancy, parturition, puerperium and lactation. H. A. Huenscher, F. C. Hummell, B. N. Erickson and I. G. Macy.—p. 579.

*The relation between the vitamin A and D intake by the hen and the output in eggs. W. C. Russell and M. W. Taylor.—p. 613.

*A study of the nutritive value of mushrooms. F. W. Quackenbush, W. H. Peterson and H. Steenbock.—p. 625.

*The effect of the ingestion of saline waters upon the pH of the intestinal tract, the nitrogen-balance and the coefficient of digestibility. V. G. Heller, J. R. Owen and L. Portwood.—p. 645.

*The differential antirachitic activity of vitamin D milks. R. W. Haman and H. Steenbock.—p. 653.

Studies on growth. IV. The vitamin B and G content of the body tissues of normal and experimental rats. W. H. Griffith.—p. 675.

*Editorial review. The absorption and utilization of carbohydrates. H. B. Pierce.—p. 689.

Vol. 11, January, 1936

*The comparative antirachitic efficiency of vitamin D in irradiated milk, metabolized milk and cod liver oil. R. M. Bethke, W. E. Krauss, P. R. Record and O. H. M. Wilder.—p. 21.

The effect of digestibility upon the availability of iron in whole wheat. E. M. Vahlteich, M. S. Rose and G. McLeod.—p. 31.

Protein utilization as affected by the presence of small amounts of bran or its fiber. E. H. Funnell, E. M. Vahlteich, S. O. Morris, G. McLeod and M. S. Rose.—p. 37.

*Influence of the ration on the vitamin C content of milk. W. H. Riddell, C. H. Whitnah, J. S. Hughes and H. F. Lienhardt.—p. 47.

*The variation in the mineral content of vegetables. J. Davidson and J. A. LeClerc.—p. 55.

*Studies on vitamin G (B_2) and its relation to canine black tongue. C. J. Koehn and C. A. Elvehjem.—p. 67.

*Effects of excessive ingestion of sodium and potassium salts on carbohydrate metabolism and blood pressure in diabetic children. I. McQuarrie, W. H. Thompson and J. A. Anderson.—p. 77.

METABOLISM DURING REPRODUCTIVE CYCLE. A case study extending over an 8 year period of child-bearing and child-rearing has been made on a healthy woman. Uninterrupted nitrogen metabolic responses during the last half of fetal development and the physiological preparation of the maternal body for lactation and the extension of these observations into parturition, puerperium and 8 weeks of lactation, showed where some of the stresses and strains of maternity lay.

USE OF VITAMINS A AND D BY THE HEN. The output of vitamin A in eggs, calculated as the percentage of that consumed, varied from 11 to 32 per cent, and was determined by the number of units of the factor consumed, the number of eggs produced and the potency of the yolk. The liver vitamin A of the hens varied inversely with egg production. Ten per cent of the vitamin D consumed appeared in the egg. Sunlight appeared to be more effective than cod liver oil in increasing the antirachitic potency of egg yolk.

NUTRITIVE VALUE OF MUSHROOMS. Mushrooms were found to be a relatively good

source of vitamins B and G when fed to albino rats. Mushroom protein is incomplete. Unfortunately, diets which contained mushrooms were consumed in subnormal quantities.

EFFECT OF SALINE WATERS ON DIGESTION. Assimilation and digestibility are aided by the presence of reasonable amounts of salt, as long as the total content is kept below the concentration where serious disturbances in growth and reproduction take place. The pH of the entire intestinal tract is not appreciably altered by the presence of alkali or acid salts in the drinking water, provided the concentration does not exceed the amount considered normal.

VITAMIN D MILK. Irradiated milk, cod liver oil, and irradiated cholesterol are equally effective for the chick. Yeast milk was approximately one-tenth as effective as irradiated milk.

EDITORIAL REVIEW OF CARBOHYDRATES. The absorption of carbohydrates from the stomach and intestine of man and animal has been considered. The literature reveals that the several sugars have quite different assimilation units and effects upon blood sugar levels. Likewise, respiration studies demonstrate marked variations in the ease with which the body burns various carbohydrates. The formation of glycogen and fat from carbohydrate has been reviewed.

ANTIRACHITIC EFFICACY OF VITAMIN D MILKS. It required more than ten times the rat equivalent of vitamin D in metabolized (yeast) milk as in irradiated milk to produce the same effect in chicks. Equivalent rat units of vitamin D from cod liver oil and irradiated milk were equally efficient, antirachitically, for the chicken. Since rat equivalent amounts of vitamin D in metabolized (yeast) milk and irradiated milk were found equally efficacious for the rachitic infant but not for the chick, it is concluded that the infant and chick vary greatly in their response to the forms of vitamin D in these two types of milk.

VITAMIN C CONTENT OF MILK. The influence of a number of carefully controlled rations on the vitamin C ascorbic acid content of milk was determined both by biological assay and chemical test. Milk from cows on pasture was compared with milk from cows on silage or dried feed. The rations appeared to have no significant influence on the vitamin C content of the milk.

VARIATION IN MINERALS OF VEGETABLES. There is appreciable variation in the mineral content and base balance values of the same vegetable when grown under different conditions. Virginia samples of spinach were higher in potassium and lower in sodium than those grown in Maryland.

VITAMIN G AND CANINE BLACK TONGUE. Typical symptoms of black tongue were produced in dogs by feeding a modified Goldberger ration. Fractions prepared from liver extract were very active in the cure of black tongue.

NA, K SALTS, CARBOHYDRATE METABOLISM. When ingested in amounts varying between 1 and 2 gm. per kilogram of body weight daily, sodium chloride exerts a favorable influence on the carbohydrate metabolism of diabetic children taking simplified diets low in potassium. Both systolic and diastolic blood pressure levels are elevated significantly. Potassium chloride has diametrically opposite effects on both glycosuria and blood pressure.

Journal of the American Dental Association

Vol. 22, December, 1935

*Caries. E. P. Brady.—p. 2043.
*Will America save its teeth? F. von Minden.—p. 2106.

Vol. 23, January, 1936

*Dental caries: critical study of investigations in the Hawaiian Islands. A. J. Ker.—p. 17.

CARIES. The cause of caries is not known. Diet may have some influence during the formative, preëruptive period of dentition, resulting in malformations but there is some doubt as to whether or not nutrition has such an effect on erupted teeth as to be a

factor in caries. The dentist is not equipped to recommend dietary changes even if such changes were recognized as necessary for the preservation of dental health.

WILL AMERICA SAVE ITS TEETH? Numerous surveys have shown that from 95 to 97 per cent of school children have defective teeth. It may be assumed that the percentage among adults is not less, for dental caries and pyorrhea are neither self-limiting nor self-curable. A comprehensive and well-correlated dental educational campaign could accomplish an enormous amount of good, having a profound effect on the dental health of the people.

DENTAL CARIES. A series of papers on the dental health of Hawaiian children concludes that dental decay is primarily a systemic disorder, an imbalance, perhaps, in the tissue fluids and oral secretions in the direction of a decrease in basic ions. It was believed that any type of diet which tends to decrease the amount of base in the tissue fluids will proportionately increase the liability of the enamel to decay. This was a valuable work but cannot be accepted as the final word for there are still many discrepancies. Further efforts are necessary for conclusive evidence.

Journal of the American Medical Association

Vol. 105, December 7, 1935

*Growth of long bones. Editorial.—p. 1917.
*The iron requirement of man. Editorial.—p. 1917.

Vol. 105, December 14, 1935

*Food poisoning from ice-cream on ships. J. C. Geiger, A. B. Crawley and J. P. Gray.—p. 1980.
*Organic and inorganic arsenic. Editorial.—p. 1986.
Structure of glutathione. Editorial.—p. 1987.

Vol. 105, December 21, 1935

*Legislation pending in Congress concerning food, drugs, cosmetics and therapeutic devices. Editorial.—p. 2075.

Vol. 106, January 4, 1936

*Obesity. Editorial.—p. 44.

Vol. 106, January 18, 1936

*Protamine insulin. H. C. Hagedorn, B. N. Jensen, N. B. Krarup and I. Wodstrup.—p. 177.
*Clinical experience with protamine insulinate. H. F. Root, P. White, A. Marble and E. H. Statz.—p. 180.
*Protamine insulate. Editorial.—p. 217.
Pigmentation, sunlight and nutrition. Editorial.—p. 218.
*Aluminum in food. Current comment.—p. 218.

Vol. 106, January 25, 1936

*Multiple specific nutritional deficiency disease in the adult. R. L. Haden.—p. 261.
The antianemic principle of the stomach. Editorial.—p. 295.

GROWTH OF LONG BONES. The lengthening of long bones, which occurs at the ends, takes place by the deposition of layers of new bone between the end of the diaphysis and the epiphyseal cartilage and between the articular cartilage and the epiphysis. The proportion of longitudinal growth from the two ends of a long bone was found to be unequal.

IRON REQUIREMENT. Farrar and Goldhamer recently studied the iron metabolism of two normal men for 316 and 260 days respectively. The daily iron intake for the two subjects averaged 5.2 mg. and 7.8 mg. The iron and hemoglobin content of the blood and the erythrocyte counts of these subjects remained within normal limits. It appears that the actual daily iron requirement of the normal adult male is no greater than 5 mg. A recent, similar study indicates that the requirement of the normal, nonpregnant adult female does not differ greatly from that of the male. Chemical and biologic studies have demonstrated that the availability of iron for physiologic purposes varies widely in different foods. Less than one-fourth of the iron present in oysters, spinach, alfalfa and blood is available for hemoglobin formation, whereas more than half of that present in beef muscle, liver, wheat, yeast, soy beans and oats is utilizable. The iron content of a satisfactory diet should exceed by a liberal margin the minimal amount actually found to satisfy the human iron requirement.

FOOD POISONING. Interesting outbreaks of food poisoning traceable to nut ice cream occurred frequently aboard a large ocean liner sailing from San Francisco. Cultures showed *Staphylococcus aureus* to be the predominant organism. Since the lower temperatures

used in ordinary refrigeration and ice cream freezing have only growth inhibiting and not bacteria destroying power, and since milk offers such an excellent bacteria culture medium, ice cream and other milk food products should be subject to rigorous standards in production, processing and marketing.

ARSENIC. Much apprehension has recently been expressed over the possibility of chronic poisoning with arsenic through the use of its compounds in sprays for fruits and vegetables as well as in foods artificially prepared by the use of chemical reagents contaminated with arsenic. The forthcoming revision of the pure food law should give more attention to the toxic elements such as arsenic, fluorine and lead.

LEGISLATION. The Copeland bill is officially entitled "An act to prevent the adulteration, misbranding, and advertising of food, drugs, devices, and cosmetics in interstate, foreign and other commerce, subject to the jurisdiction of the United States, for the purposes of safeguarding the public health, preventing deceit upon the purchasing public, and for other purposes". While this bill contains loopholes and evidences of weakness in some of its provisions it is, nevertheless, more rigorous in its requirements on the labeling and advertising of foods than the existing Act of 1906.

OBESITY. The energy requirement of the body is the amount of energy necessary to cover the basal metabolism, the bodily activity and the specific dynamic action of food. The amount of energy consumed in exercise is relatively small; a 70 kg. man would require only 140 calories to walk 2½ miles. The essential change in intermediary metabolism underlying a large group of obesities may be traced to a disturbance of hepatic function whereby glycogen is laid down and carbohydrate is converted into a fat with excessive ease. Metabolic obesity may be endocrine, neurogenic or neuroendocrine in origin. In all varieties of obesity, food intake and exercise play a part.

PROTAMINE INSULIN. The treatment of diabetes by protamine insulin has proved very adequate and effective with regard to complications. When treatment with ordinary insulin gives satisfactory results, the use of protamine insulin is of no special value.

DIABETES. Preliminary observations in fifteen cases have confirmed the observations of Hagedorn and his associates regarding protamine insulin. Presumably by slow breakdown of the compound in the subcutaneous tissues, a blood sugar lowering action is secured which is more even and prolonged than that which follows the administration of regular insulin. Because of this, wide fluctuations in blood sugar levels are less apt to occur and hypoglycemic reactions can be largely avoided. Further work is necessary to determine when, how, and for which patients protamine insulin can be used.

PROTAMINE INSULATE. Injected protamine insulate, being relatively insoluble, tends to be absorbed slowly and over a relatively longer time than ordinary insulin; the blood sugar lowering effect lasts about twice as long. Protamine insulate (insulin retard) represents an important advance in the treatment of diabetes but it is still a laboratory preparation. It does not supplant ordinary insulin but serves as an adjunct to the latter; the two must usually be used in the same patient at different times of the day. For those patients whose diabetes cannot be controlled satisfactorily with insulin alone, protamine insulate is a valuable contribution—the most valuable since the original discovery of insulin by the Toronto group.

ALUMINUM IN FOOD. There is no convincing evidence that aluminum has a harmful effect on the ordinary consumer, in the amounts in which it is likely to be consumed as a result of the use of aluminum utensils.

NUTRITIONAL DEFICIENCY DISEASE. Symptoms resulting from a deficiency in specific

nutritional factors occur frequently, although beriberi and scurvy are uncommon. The deficiency may be due to a deficient intake of the specific food factors for normal needs, or an insufficient supply for abnormal needs as in pregnancy, a defect in absorption, or a disturbance in utilization. Almost every tissue of the body may be affected by a deficiency in a food factor.

INSTITUTIONAL MANAGEMENT

The American Restaurant Magazine

Vol. 18, December 1935

*Good to the last crumb—that's pie crust. M. B. Strause.—p. 22.
What price air conditioning? J. F. Sweeney, Jr.—p. 24.
*When you go to market. Consumers' Council.—p. 26.
Pleasant surroundings and fine foods. I. W. Rose.—p. 28.
*Soup and its value to the menu. Helen Ewing.—p. 29.

Vol. 19, January 1936

*Modernizing increases profits and volume. R. B. Smith.—p. 21.
*A conversion table for the restaurant baker. M. B. Strause.—p. 22.
Realize your dream of a perfect fruit pie. M. B. Strause.—p. 23.
*When you serve fish. Helen Ewing.—p. 24.
*The 1936 parade of new equipment. K. C. Lovgren.—p. 29.

PIE CRUST. Gives a basic formula for the three types of crust—medium short flake, very mealy, and long flake—based upon 10 lbs. sifted soft winter wheat flour and 7½ lbs. shortening and shows how the proportion of water to the other ingredients is directly responsible for a tender flaky crust.

FRESH VEGETABLE SEASONS. Modern methods of refrigeration, transportation, and marketing now make possible a much greater variety in the menu. The Consumers' Council of the Agricultural Adjustment Administration tells which vegetables are most plentiful in each month, by means of calendar charting the supply of 22 common vegetables throughout the entire year.

SOUPS. Describes the two kinds of soup, those with meat (or fish) base, and those with no meat flavor; explains how to get the valuable nutrients of meat into the soup stock. Directions for making meat, fish, fowl, and vegetable bases are accompanied by several delicious recipes.

INCREASED PROFITS. The list of equipment in restaurants eligible for federal financing under the amended Federal Housing Act includes food warming units, broilers, roasting ovens, commercial deep fat fryers, ranges, dish washers, bake ovens, ventilators, air conditioning units, composition floors, coffee urns, toasters, steam tables, refrigerators. Several profit-making improvements are suggested.

CONVERSION TABLE. A helpful table converting many common ingredients from measurements to weights and vice versa.

FISH. Structure, seasons, and food value of fish are given. Several delightful fish recipes and illustrated servings accompany the article.

NEW EQUIPMENT. A valuable series of illustrations and descriptions of the newest labor and time saving devices from dish machines to condensing units.

Buildings and Building Management

Vol. 35, December 1935

*What the social security act requires of employers. Editorial.—p. 24.
*Modern methods of roach extermination. J. N. Laferriere.—p. 29.
A study of costs. J. F. Cook, Sr.—p. 30.
One-way elevator traffic improves service. J. E. Tufft.—p. 36.

Vol. 36, January 1936

An efficient set-up for large-scale cleaning.—p. 13.
*Effective modernization at reasonable cost.—p. 19.
*The office of the future.—p. 23.
*Modern methods of roach extermination. J. N. Laferriere.—p. 29.

*Vol. 36, January 1936**

*Trends in modernization.—p. 14.
*Good merchandizing requires an attractive exterior.—p. 35.
*Modern lighting is essential in rehabilitation. A. A. Brainerd.—p. 47.

* A *reference number* dealing solely with *modernization.*

Air conditioning standards formulated for Chicago.—p. 70.
Noise control pays dividends in tenant satisfaction.—p. 76.
*Modern floors combine beauty with easy maintenance.—p. 78.
Toilet room modernization at moderate cost.—p. 85.
Successful modernization of kitchens and bathrooms.—p. 97.

SOCIAL SECURITY ACT. Under this Act, employers of eight or more persons are to pay taxes on payrolls for unemployment at the rate of 1% in 1937, 2%, 1938, and 3%, 1939; and old age pensions, *i.e.* retirement benefits, at the rate of 1%, 1937–9, 1½%, 1940–2, 2%, 1943–5, 2½%, 1946–8, and 3%, 1949 and after. An additional tax on employees is to be deducted from wages and salaries and paid by the owner. By 1949 employers will be directly or indirectly responsible for a sum each year which is greater than an entire month's payroll. Among a few others, employees of non-profit institutions operated exclusively for religious, charitable, scientific, literary or educational purposes, are exempt. Graphic charts show the computation of taxes and are accompanied by suggested record forms. These record forms are not as inclusive or as readily interpreted as are the forms suggested by Horwath and Horwath in their Service Bulletin No. 5–45 for Hotels.

ROACH EXTERMINATION. Summarizes a century of research on the best cockroach remedies. Remedies are used as sprays, powders or as perfumed baits. For a spray, use kerosene 40%, carbon tetrachloride 60% and a cheap perfume oil, such as oil of wintergreen, about 1 oz. to a gallon; for a powder to be dusted around the room, use sodium fluoride 50%, flour 50%, and a drop of one of the four oils, oil of apple, banana, pineapple, sweet orange; and for a bait, dissolve 6 grams of gelatin in 200 c.c. hot beef broth, add ½ gram of mercuric chloride (U. S. P.) and one drop of one of the above oils. When mixture has hardened, cut in small cubes and set about the room, on the floor, on shelves, or any convenient place. The last two forms, although most effective, are poisonous to humans and should not be used without carefully reading the precautions which are recommended.

INEXPENSIVE MODERNIZATION. Cleaning, painting, change in decorative scheme, installing new lighting fixtures, or floor coverings, are a few of the low cost ways of modernizing.

OFFICE OF THE FUTURE. Modern lighting and well planned wall decoration bring about a psychological effect that greatly increases office personnel efficiency. Since payroll expense of business offices averages $15 per square foot per year of office space occupied, this efficiency increase is important.

ROACH EXTERMINATION. Discusses the detection and control of roaches in an exhaustive and scientific manner, and points out the fallacy of attempting daylight control of cockroaches since their nests can only be detected in the dark with a flashlight. Explains in detail the technique which will assure the desired extermination when used with sodium fluoride or perfumed bait.

Reference Number—Modernization

MODERNIZATION TRENDS. Typical illustrations of modernization projects in various types of buildings. Several groups of pictures showing convincing "befores" and "afters".

MODERN ENTRANCES. Stresses importance of modern, attractive store fronts and entrances. Must attract attention and hold interest of prospective customer.

MODERN LIGHTING. Discusses the basic principles of a lighting system. Quantity, quality of light, types of units, advantages and disadvantages of direct, semi-indirect, luminous indirect, and indirect lighting as well as the effect of appearances of units are carefully evaluated.

FLOORS. Principal classes of floor coverings are: linoleum—dependable, durable, smart in appearance, and easy to maintain; rubber tile—resilient, quiet, durable; asphalt tile—extra durable, attractive, easy to maintain;

cork—extra quiet, vermin-proof, water-proof. Proper maintenance procedure, closely related to modernization, is discussed for each type of floor covering. The problem of reconditioning old floors is also analyzed.

The Horwath Hotel Accountant

Vol. 15, December 1935

How laundry costs compare—p. 2.
Food and beverage costs. Editorial.—p. 3.
*High lights of social security laws. L. Toth.—p. 5.

Vol. 16, January 1936

Social security laws. Service Bulletin No. 5-46.—p. 4.
Address on social security laws.—p. 6.
*Room rates economics. G. O. Podd.—p. 7.

SOCIAL SECURITY LAWS. The Federal Social Security Act that became effective August 1935 is far more serious for hotels than the Federal Income Tax. The two important parts of the Act which are of grave concern to hotel owners are: first, the retirement benefit or pension for the wage earner after he reaches the age of 65 and; second, the federal tax for unemployment insurance. Beginning January 1937 the retirement benefits are based upon total wages earned and will represent an excise tax on employers and a special income tax on wages of employees. Since total wages are defined as cash payments plus rooms and meals plus tips, the retirement benefit tax results in a 25% increase in cash payroll for transient hotels and a 50% increase for resort hotels according to figures of Mr. Toth. The unemployment insurance tax, effective immediately January 1936, is based upon the total cash payroll including the salaries of corporate offices and that of the manager and wages of extra waiters plus 25% or 50% increase to cover rooms, meals, and tips. This represents an entirely separate tax on employers distinct from the retirement benefit tax above. These two parts of the Act will result in at least three new taxes on employers and two on employees. Therefore, on a yearly cash payroll of $400,000 the amount of these three taxes collected from employers will eventually be $30,000.

ROOM RATES. Rate-cutting for rooms, whether by commissions or concession, is harmful. Any advantages obtained by these procedures are temporary and the final result may mean heavy losses.

Hotel Management

Vol. 28, December 1935

*Modernizing into the black. Editorial.—p. 434.
*In the use of modern colors. F. N. Venderwalker.—p. 443.
A menu a day for a month. Editorial.—p. 461.
*Ideas from a thousand menus. Editorial.—p. 462.

Vol. 29, January 1936

*Section on bathrooms. Editorial.—p. 21.
*The danger of cross connections. G. H. Myrick.—p. 32.
A menu a day for a month. Editorial.—p. 53.
*Just a minute please. Advertisement.—p. 69.

MODERNIZING. Details a structural and decorative scheme applicable to a small counter unit, with illustrations, floor plans and side elevations.

TRICKS WITH PAINT. Ultra modern technique in color that may be used in living rooms, bedrooms, and entrance halls fall under two types of color schemes—daring or conservative modern. Color-mixing formulas to secure these modernistic color schemes will appear in the second part of the article.

IDEAS. A monthly feature of interesting dishes sent in by readers of the magazine. New food combinations at saleable prices.

BATHROOMS. A series of articles dealing with profits from the bathroom, how to plan modern bathrooms, 21 points to consider in choosing bathroom fabrics, standard sizes for bathroom fabrics, modern bathroom colors, and outlined procedure for cleaning a bathroom.

THE DANGER OF CROSS CONNECTIONS. An engineer discusses the practical aspects of protection from back syphonage in steam table, bath tub, lavatory or closet fixtures by means of vacuum breakers. Diagrams of cross connections systems that do not assure a distinct break in continuity between city water supply and sewerage system are shown to help in their detection.

JUST A MINUTE PLEASE. A short description of the *Hotel Management* clipping bureau of good ideas. Pointers are given for employees, food, engineering, real estate, housekeeping, law, and control.

Hotel Monthly

Vol. 43, December 1935

*Salads and sandwiches.—p. 30.
*An economical and easy way to modernize bathroom walls.—p. 34.
*Simplifying records for social security tax.—p. 38.
*Economical ice cream production. E. M. Handy.—p. 42.
*Dining at 90 miles an hour.—p. 45.

Vol. 44, January 1936

*Air travel over the Pacific.—p. 18.
*The importance of color in the merchandising of food.—p. 27.
*A payroll sheet.—p. 42.
Sherry wine. A. Shircliffe.—p. 46.

SALADS AND SANDWICHES. Arnold Shircliffe gives some tempting, appetizing, and wholesome new creations. The directions are given in detail so that the finished product can be pictured even if there is no illustration.

BATHROOM WALLS. Steam, water, and soap all work havoc with bathroom walls. Individual colored steel tiles that will not peel, craze, or absorb dirt can be applied directly on the old wall with a special mastic cement. It does not require skilled labor, takes little time, and the cost of the material is only 30 cents per sq. foot. The colors and shapes available make endless combinations possible.

SOCIAL SECURITY TAX. Three new records must be kept. One gives complete information about each employee, including previous employment. The second is an individual payroll tax record for each employee. The third is a payroll record for the entire business segregated to show how much each employee earned, amount of tax chargeable to the employer, amount of tax chargeable to the employee, the amount chargeable for old age tax, and the amount chargeable for unemployment tax. Forms procurable as stock sheets on the market which will simplify the accounting as much as possible are shown. This law which was to take effect January first is being held until its legality is established.

ICE CREAM PRODUCTION. This addition to the series includes formulas for ices, sherbets, frappes, souffles, "Lacto," and punches.

HIGH SPEED DINING. The food is served with such dispatch on the 90 mile an hour train of the Chicago, Milwaukee, St. Paul and Pacific Railroad, that there is an average of three sittings per hour. All the equipment is planned to save space—even the china is of a special design and pattern so that it can be fitted on the table. The car seats 48 at one time. Floor plans show how every available inch is used.

PACIFIC AIR TRAVEL. With the "China Clipper" flying between the U. S. and China the need for small inns on the base islands is evident. These inns will accommodate people wishing to stay on the islands between hops. Construction of five 50 room inns, complete in every detail, will begin in 1936.

COLOR APPEAL. Attractive, wholesome salads and pastries properly displayed have a sales appeal that is hard to resist. The mere listing of these items on the menu would never sell as many orders as placing a tray of colorful desserts and salads temptingly close. Harmoniously decorated rooms and accessories are also an effective means of increasing food sales.

PAY ROLL SHEET. Illustrates a form for a pay roll sheet to meet all the information necessary under the Federal Social Security Act. Complete instructions accompany the chart. Additional information necessary under the new Act includes value of other compensation such as meals, room, and tips, deductions for Federal Income Tax on wages and contribution to state unemployment fund, and the three types of exemption for federal retirement, federal unemployment, and state unemployment.

Personnel Journal

Vol. 14, December 1935

*Developing a workable representation plan. E. G. Eubank.—p. 198.
*Department store policies analyzed. Helen Baker.—p. 206.
*Characteristics of the jobless. G. L. Palmer.—p. 222.

EMPLOYEE REPRESENTATION. Any employee representation plan that is to survive must include the following essential characteristics: (1) a clear-cut purpose clause, (2) the settlement of major issues, and (3) a genuine organization of their own for the employees. Collective dealing and collective bargaining are essential to the administration of the plan since functions that once were management's alone are now on the council table.

DEPARTMENT STORE POLICIES ANALYZED. Important findings of a survey of store policies on employment training, tests, physical examinations, dismissals, and benefit plans, conducted by the Industrial Relations Section of Princeton University.

CHARACTERISTICS OF JOBLESS. The Industrial Research Department of the University of Pennsylvania has developed significant statistics from records of the Pennsylvania State Employment Service in an endeavor to determine the ages, types and sex of people most prevalent in the ranks of the unemployed and to ascertain to what degree they would be covered in the Social Security Act.

Restaurant Management

Vol. 37, December 1935

*Showmanship increases business 35%. J. Chandler.—p. 379.
A camera tour of the Olney Inns.—p. 386.
*When you dine around the country. Editorial.—p. 393.
Ideas from a thousand menus.—p. 408.

Vol. 38, January 1936

*Restaurant management awards for progress. Editorial.—p. 15.
Ideas of the month. Editorial.—p. 19.

COUNTRY CLUB BUSINESS. A club within a 50 mile radius of New York City secured a 25% growth of membership and 35% increase in revenue by making the club a center for community life and puttting its resources for good times within reach of the average family while capitalizing upon its superb natural resources. An excellent example of the value of intelligent and enthusiastic merchandising of all club facilities.

DINING AROUND THE COUNTRY. Suggests interesting restaurant visits for student dietitians in New York City, Boston, Providence, Rhode Island, and includes a list of favorite eating places in other parts of the country.

PROGRESS AWARDS. An honor roll for progressive restaurants. Selection is made from photographs, menus, and cost data.

ASSOCIATION PROGRESS

Mid-Year Executive Committee Meeting

The mid-year meeting of the Executive Committee took place February 1–2 at the Blackstone Hotel, Chicago. All members were present. The JOURNAL Editor, the Business Manager and the Chairman of Publicity also attended the meeting.

The Secretary as chairman of the membership committee reported the following figures: applications received, 195; applications granted active membership, 249; applications granted associate membership, 42; applications refused, 10; resignations, 104; and total membership, 3249.

She expressed the opinion that the new revision in regard to reinstatement has made it possible for many valued members to renew their membership.

The section chairmen discussed the progress of the year's work, and plans for further development. Notice of projects to be studied and committee chairmen appointed have reached all the membership and a gratifying number have indicated a desire to take part in the year's work.

Since complete inspection was accomplished last year, it will not be necessary this year. With the endorsement of the President-elect, an inspection chairman will be appointed in the late spring. This will give her an opportunity to become familiar with the general problem before undertaking her 1936–1937 visits to institutions wishing approval of their student dietitian training.

The chairman of the Professional Education Section will direct the work of approval of student dietitian courses for this year. Through her committees, and with the aid of directors of such courses she will attempt to evaluate the quality of work given to student dietitians.

The JOURNAL editor discussed plans, expressed the need for more articles dealing with the administrative phase of a dietitian's work, and asked for figures on the purchasing power of the membership. She stated that such data would facilitate the sale of space for advertising in the JOURNAL. Increased advertising will create a favorable balance in the JOURNAL budget and ultimately make possible a monthly publication.

The editor also reported the request of the Journal Board that a descriptive pamphlet be prepared for distribution at the meetings of other groups.

The publicity chairman outlined her plans and described the widespread newspaper recognition which was given to the Cleveland meeting.

The chairman of Educational Exhibits reported an increasing number of requests for educational exhibits. These requests come not only from our own state associations, but from allied professional associations, such as home economics, medical, hospital, dental, nursing, and public health groups. Because of the growth of this work, its unquestioned value to our profession and its importance as an educational contribution to other groups, a somewhat higher amount was allowed in the budget for the development of more illustrative material.

The chairman of Revisions presented her report. This report is described elsewhere. Every detail of the report was fully discussed and voted upon by the executive committee.

The business manager outlined the work of the Business Office. Particularly pleasing to hear was her statement that there seem to be more positions for our registrants. She also stated that although there has been no great change, the salaries are somewhat higher.

The plans for the Boston meeting were discussed with great enthusiasm. The chairman of Program and the chairman of Local Arrangements and their committee members have already worked out a preliminary schedule which gives every indication of a profitable and successful Annual Meeting.

Finance Committee

The Finance Committee held its mid-year meeting on January 31, at the Business Office of the Association. The following members were present: the Treasurer, who is chairman of this committee, the President, the President-elect, and the two appointed

members of the committee, Mary Lindsley and M. Faith McAuley. The Business Manager, with her detailed knowledge of the Association finances, attended as member ex-officio.

The committee carefully studied the financial report of the first five months of this fiscal year. On the basis of these figures, such modifications as seemed necessary were made in the budget for the year. This budget was presented by the chairman to the Executive Committee, and with some minor changes, it was accepted.

Placement Bureau Report for New York State, 1935

In organizing the work of the American Dietetic Association Placement Bureau for New York State, a committee was appointed composed of one prominent dietitian from each of the five local dietetic associations, who would be informed regarding positions within her district and whose suggestions might be accepted by hospital executives. Each committee member was requested to report at once to Miss Lenfest any openings of which she learned, together with details, and to confer with employers and employees in an endeavor to adjust problems. Undesirable conditions which cannot be corrected are reported to the director of the Placement Bureau and the choice of candicates is left to her discretion. In an emergency, however, a dietitian who is available is suggested for temporary relief; Miss Lenfest is then notified and dispatches the references of this member, together with those of several other registrants. Dietitians not registered with the Bureau who offer to pay the registration fee (two dollars) if they receive a position, are informed that in fairness to registrants, such services cannot be granted to those not registered.

This is how the Bureau functions: The $2.00 registration fee is used for the collection of each candidate's references and records. These are mimeographed and arranged in compact, readily mailable booklets to which the candidate's photograph is attached. When a call comes to the director of the Bureau the type of person desired by the employer is usually indicated. Records of several registrants who meet these requirements are dispatched to the prospective employer and from these references and photographs, selection is made. The candidate is then notified by Miss Lenfest. The successful candidate pays a $15.00 registration fee and her references are placed in the inactive file but may, upon payment of an additional $2.00, be transferred again to the active file.

The dietitian who keeps these references up to date while still employed is indeed wise since a single $2.00 registration fee will provide this service for a member over a period of years, no second fee being required during the period except when the registrant has received a position through the Bureau. References are kept by the director of the Bureau to be shown only to prospective employers; the state chairman neither sees the references nor knows who is registered within her state. The only exception to this rule occurs in emergencies and when young unemployed dietitians, known to be available, are placed. This protection to members who hold responsible positions and who might be embarrassed should it become generally known that they are registered, is assured when placements are centralized in the Chicago office.

Frequently members do not realize that time is required for the collection of references. Student dietitians should therefore register within the first months of their student course, thus permitting ample time to secure their early records. While no student is appointed until the final report from her approved course director is received, this final step requires little time. It is helpful to Miss Lenfest to know in advance how many registrants may be available within each state every month. Many times positions would have awaited the recent graduate of a New York State course had her records been complete before she left the state.

It is natural that directors of approved courses who usually know of a few positions, should make every endeavor to place their own students. However, unless Placement Bureau workers can depend on opportunities

to place the best as well as the poor students from an approved course, they will be cautious about placing registrants from a given course. The prospective employer who goes to a hospital where many students desire positions invariably is able to obtain the services of a dietitian at a lower salary than when he secures a candidate with more effort.

Hospital executives have been pleased with the Placement Bureau record system; they appreciate being able to select candidates from a group of references, unhampered by personal applications from every registrant in the Bureau. They realize that the Bureau is not a commercial agency, that it is not the fee but the desire to improve professional standards which motivates this service. They also know that every registrant in the Bureau has the support of our organization. Thus, Miss Lenfest and her staff have been able to obtain many concessions which members would be helpless to secure for themselves, such as salary adjustments, needed equipment, the reorganization of a department or the granting of a vacation.

Members should reciprocate by making themselves personally responsible for acquainting employers of the services rendered by the Bureau and for reporting without delay to the director, Miss Lenfest, all positions of which they learn.—VIRGINIA HOWARD RAY, *Albany Hospital, Albany, N. Y.*

Courses in Quantity Cookery

Food administrators in institutions which offer courses in apprentice training to college graduates have realized, for some time, the lack of uniformity in courses in quantity cookery offered at the various colleges. Students enter hospitals and other institutional fields having had such widely differing basic training in this fundamental course that many difficult problems have developed for both the administrative and the student dietitian.

The deep concern of the American Dietetic Association in adequate basic training of student dietitians has focused the interest of the organization on the need for a degree of standardization and a greater uniformity in the subject matter content of quantity cookery courses. The vital interest of colleges and divisions of home economics in the success of their students in the competitive field of institution apprenticeship of any sort, has created a desire to determine on their part, if possible, what should be offered in these courses to provide adequate knowledge and necessary experience for the apprentice who is to enter the hospital or administrative field.

In 1934, the department of institutional administration of the American Home Economics Association appointed a committee to make a study of the content of the courses in quantity cookery offered by colleges and universities throughout the United States, as the first step toward the solution of this problem. A checking list was prepared and sent to 168 colleges which theoretically prepare students to meet the requirements of the American Dietetic Association. Seventy-eight schools checked and returned the lists; 12 reported no courses in quantity cookery. Table 1 shows a summary of the laboratory facilities provided for quantity cookery classes in the 78 colleges.

TABLE 1

Type of laboratory used for food preparation and service

	PER CENT
Cafeteria and catering	28
Tea room and catering	7
Residence hall and catering	10
Catering only	3
Foods laboratory	3
High school laboratory	1
Grade school laboratory	1
Cafeteria and residence hall	8
Cafeteria, tea room, and residence hall	2
Cafeteria and hospital	2
Cafeteria, tea room, residence hall, and hospital	3
No laboratory	32

The diversity of work in these colleges which theoretically offer the same advantages as a carefully planned, scientifically

organized quantity cookery course, are further shown in the following comments selected from the reports:

Our laboratory work consists of trips to a residence hall, school lunch room, hospital, institutional equipment house, wholesale grocery, and green produce wholesaler. We spend about six laboratory periods doing quantity cookery in our foods laboratory. We have a Kitchen Aid which the students learn to operate. [A subsequent study shows that 25 pieces of large and expensive equipment must be used by student dietitians.]

I am sorry that our home economics department is not large enough to include a regular course in quantity cookery. We have a Home Economics Club of 30 members and carry on club projects which we put on as much for the training of our students as for the financial returns. They run a tea room once a week; each girl has the opportunity to manage it several times during the year. Last week we sold nothing over five cents and made a 50 per cent profit. We served hamburgers, pecan pie, lemon tarts, cream puffs, coffee, iced tea, and coco colas.

Under separate cover I am sending you a copy of "Outline of Field Work in Institution Management" which I have prepared for my students in connection with the course in Institution Management. This course comprises two semesters, in the first of which we utilize the laboratory period in field trips of observation and in discussion, rarely in demonstration. In the second semester the students use the laboratory period for actual work in various coöperating institutions. We have no course in quantity cookery as such and no laboratory is provided for it.

TABLE 2

College courses in quantity cookery compared with hospital requirements for student dietitians

ITEM	COLLEGES TRAINING STUDENTS TO PREPARE FOOD IN LARGE QUANTITIES			HOSPITALS TRAINING STUDENT DIETITIANS	
	Per cent offering training large quantity preparation of food listed	Total time spent in preparation		Per cent requiring large quantity preparation of food listed	Per cent requiring supervision large quantity preparation of food listed
		Minimum clock hours	Maximum clock hours		
Salad	39	2	48	64	87
Short orders	76	1	10	52	66
Vegetables	39	1	50	47	81
Cake	28	1	18	45	81
Hot breads	50	1	50	22	79
Sandwiches	57	1	80	64	81
Desserts	41	3	60	54	85
Beverages	46	1	32	56	75

Interest in the findings of this study led the American Dietetic Association to participate in a continuation of the investigation. The study launched by this organization was planned to determine from administrative dietitians in hospitals accredited for student dietitian training what skills and subject matter in quantity cookery were minimum essentials for the student dietitian. This study was completed, the findings tabulated and summarized, and presented at the luncheon for heads of home economics and dietary departments at the Annual Meeting of the Association in Cleveland, October 29, 1935.

A comparison of the work included in the college courses in quantity cookery, as reported, and that deemed important by hos-

pital dietitians, is presented in table 2.—MRS. BESSIE BROOKS WEST, *Department of Institutional Economics, Kansas State College of Agriculture and Applied Science, Manhattan, Kansas.*

On Catering to Private Pavilion Patients

Seven-forty-five, and everything is going fine. Breakfast trays are nearly all served. There is just one more new patient to check for breakfast, and he probably will be easily satisfied. At least, this is our optimistic hope as we hurry down the hall to the unknown.

"Good morning. Yes, it is a lovely morning. Would you like orange juice or stewed apricots for breakfast? Oh yes, certainly we have prunes. You like them peeled? Surely, it will be no trouble at all. And you'd rather have cornflakes than branflakes, and poached eggs. Yes, we have Postum. I will get some for you."

Whew! Perhaps I shouldn't have mentioned the menu at all. He might have asked for something that *was* listed if he hadn't known. But then, it just starts the day right to peel a few cooked prunes before breakfast.

Thus life is lightened when catering to private patients. Something happens everyday and there is so little monotony that you can't go to sleep on the job; if you do you are sure to miss something.

But our day is only started. Well, we'll go up to the floors again, because there is much to be done. It's a little early to see the patients. We'll spend a few minutes browsing around the service rooms to check up on the things coming back on the trays, the order of the refrigerators, and answer any questions. Soon it is time to start around with our menus to be checked. It is rather a game trying to see the patients in the morning when they are so likely to be busy with baths, doctor's visits, or tests. Sometimes you think patients are the busiest people in the world. As we talk to them we find some that we can classify. There are those who always eat the same things day after day—a fried egg for breakfast, steak for dinner, and chicken for supper, regardless of weather or feelings. Some, of course, must be different and original and select only strange or out of season foods. And how they know them! Then again, some will say, "anything will do." This is likely to be disappointing, because usually anything won't do. Some will not eat, and some will invite you "to come back later." But the most interesting are those who keep you on your toes trying to please them, or tempt them with food—the problem cases.

These patients are paying for service and should have it. Though we have to hurry along to the others, each must be treated for the moment as though their wishes were paramount. Most of them are not unreasonable; they just know what they want, and "the patient is always right."

Now we must assemble all of our notes and see that no one has been overlooked. Then down we go to chart our orders, and check and recheck to be sure everything is ordered and from its proper place. The number of servings of each food must be counted and each sheet must be properly routed.

After an early lunch we go back to the floors to check any new patients, order trays for guests, straighten out difficulties that may arise, and if necessary, help with the serving of trays on busy floors. We must watch the trays constantly to note and perhaps correct their appearance, or add an extra touch that the patient will appreciate.

Later in the afternoon we go to each floor to check our list of patients with the floor list. The new ones must be checked and the food ordered. Perhaps there are orders to be canceled for a discharged patient. Service rooms must be checked for order and cleanliness.

There remains some time for us to get ready for tomorrow—order sheets in place, and filled out with patients' names on tomorrow's menus. At supper time we follow the same procedure as at noon.

Yes, it has been a busy day, and this is only a rather sketchy outline of it. But such an interesting day; we have consulted physicians about certain diets, and we have learned much from these discussions. Perhaps there have been changes in orders to

adjust, or last minute orders that tax our ingenuity; or there may have been complaints to smooth out. Something doing every minute!

And what do we need to do the job well? Perhaps the first requirement is tact since we must deal with so many different kinds of people. We certainly need poise and ability to meet the new situations that arise with coolness and dispatch. We need a ready imagination in order to put ourselves in the patient's place and make suggestions. And it is probably unnecessary to add that we must have a well-groomed, pleasing appearance. Because our days are full of new and not always pleasant occurrences, we certainly need a sense of humor, coupled with self-control.

A large order? Yes, but one well worthy of being filled, and the experience will aid us in building these qualities.—J. VIAL, *Student Dietitian, St. Luke's Hospital, Chicago.*

The Observant Patient

A writer in a recent issue of the Detroit Athletic Club Bulletin, after having spent all of his time and most of his money in a hospital for the last few months, comes out with some sage observations. As he says "if you are able to shop a bit before going to a hospital and are not whisked away without any choice in the matter", there is one point above all others which should be considered. "Let the surgeons be what they may—butchers by inclination, bumble-puppies who leave a pair of scissors or a yard of gauze inside you when they sew you up, Bismarcks when they send their bill. Let the medicos be as snooty and as lazy as they like, arriving in top hats during your acutest hour of agony and trailing prescriptions for sodium bicarbonate as they drift off to the opera. Let the nurses be the epitome of insouciance, whistling "Isle of Capri" as they jerk the draw-sheet under you and tell you of events last night at El Morocco. Let the orderlies look and act like boilermakers on a strike. But give several thoughts to the chef and the dietitian, for meals are the high spot of every hospital day—about the only thing, except death, to which the patient can look forward with any hope. You owe it to yourself to see that they are tops. The old idea that sanitoria concentrated on gruel, watery vegetables, gray meat, and junket has long since gone by the boards."

He continues with the remark that the better institutions now present their patients with menus from which they may select for the following day. "These swanky places may be expensive but when they make you pay through the nose they usually compensate through the mouth."

The writer makes further observations on nurses: they impress him as being most unobservant. If a patient inquires whether Rudy Vallee is in the hospital under another name, it is all news to the nurse; if a neighbor dies, to the patient's certain knowledge, neither does the nurse know this. As for doctors, all are perfectly lovely and time their rounds so that they arrive just when you are in the middle of your bath.

After commenting on the typical hospital bed suitable for the use of either an Alpine climber or a flying trapezeman, the writer decides that the extreme height of the beds is solely for the benefit of the nurses so that they will not have to bend over. He concludes, on the surface, that hospitals are run *in toto* for the benefit of the nurses and doctors and that the patient is only a necessary evil. He wonders whether or not this may be the reason they are called "patients."

Echoes of the Cleveland Meeting

Among the press comments in monthlies or weeklies, following the annual meeting, were:

Time, November 11, 1935:

> To the members of the American dietetic Association who, in Cleveland last week, expected him to say something prodigious to help them in their jobs of supervising menus in hospitals, hotels, restaurants, schools and relief kitchens, Western Reserve's able Professor Thomas Wingate Todd declared: "There are three criteria of a stomach that is up to its job: (1) a mind free from fog; (2) an abdomen free from discomfort; (3) a sleep free from dreams.

Food Industries, editorial page, December, 1935:

The much looked for Allergy Dinner at the fall convention of the American Dietetic Association in Cleveland petered out because the hotel management failed to get sufficiently enthusiastic about it.

Perhaps the chef was not quite equal to the task of eggless, wheatless, milkless, etcetera-less meals. One suspects that his reaction might have been like this department's when we were mess officer on a hospital ship in 1918. A fully qualified medico ordered a diet, on that never-to-be-forgotten voyage, that was to be free from protein, carbohydrate and fat.

P. S. The patient was not fed.

Knowing Our Notables

We feel that a laurel wreath should be bestowed on the unsung heroines of the Executive Committee who, at their midyear meeting, worked steadily through the daylight hours and up until the eerie hour of 2:00 a.m., arising undaunted the next morning to continue their efforts on behalf of the Association's interests.

We also hand the laurel wreath to the old and honored Dietitians Association of Philadelphia, who are the first to sing poetically of Spring and to sense the approach of this elusive season as early as their February 26 meeting.

We point with pride to the Richmond Dietetic Association, who sugar the pill of reading the JOURNAL by offering prizes based on the highest score for a set of twenty-five true-false questions related to subjects presented in the JOURNAL.

And the young Texas State Dietetic Association continues to serve as a pattern for others. Recently organized and with but forty-six members, during the short space of its year's affiliation to the national Association, this state group has been responsible for capturing eighteen new national members.

NEWS NOTES

The American Home Economics Association will hold its annual meeting in Seattle, Washington, July 6 to 9, at the Olympic Hotel. The program will follow the general scheme of recent years, except that there will be no central theme and that some informal outdoor good time will probably take the place of the usual banquet. An Alaskan cruise has also been suggested.

The executive committee at its Washington meeting early in November appointed Marjorie Heseltine as field secretary. She will act as the connecting link between the Association and its affiliated associations, other home economics groups, and organizations whose interests are partly similar to those of the American Home Economics Association. According to the *Journal of Home Economics*, Miss Heseltine seems a very happy choice for the position, both by personality and by experience. Her proposed itinerary will include the greatest possible number of state meetings and group conferences.

Catholic Hospital Association. An nouncement is made that the twenty-first annual convention of the Association is to be held in Baltimore, Md. at the Fifth Regiment Armory, June 15–19, 1936, under the patronage of His Excellency, The Most Reverend Michael J. Curley, Archbishop of Baltimore.

Commission on Nutrition. At the September meeting of the Assembly of the League of Nations a commission on nutrition was appointed as a result of a three-day discussion of the problem of nutrition in relation to the public health. The commission held its first meeting in London in November with Dr. Edward Mellanby, London, as chairman and Elmer V. McCollum, Sc.D., Baltimore, vice chairman. Other members present included Mary Swartz Rose, Ph.D., New York; and Dr. William H. Sebrell Jr., National Institute of Health, Washington, D. C. It was decided to draft a statement on scientific principles governing the dietaries of certain groups; namely, women during pregnancy and lactation, infants, school children and adolescents up to the age of 21. Two subcommittees were set apart, one on energy-producing substances and the other on non-energy-producing substances.

Placement Bureau Appointee. Dorothy Milavetz has been appointed by the President, Katherine Mitchell, to fill the unexpired term of Mrs. Octavia Hall Smillie, as a member of the Placement Bureau of the American Dietetic Association. Mrs. Smillie's appointment as program chairman for the Annual Meeting in Boston, necessitated her being relieved of her responsibilities as a member of this Board.

The National Organization for Public Health Nursing, 50 West 50th Street, New York, N. Y., has made available a summary of nutrition data for public health nurses in child health programs. With the assistance of Anna DePlanter Bowes, director of nutrition education, Philadelphia Child Health Society, and member of the committee on maternal and child health of the National Organization for Public Health, these data were gathered from dietitians, home economists and nutritionists of long experience with public health nursing programs.

A reprint has been issued of Mrs. Bowes' article in the December issue of *Public Health Nursing* on a "Program for Staff Education" with special emphasis on nutrition for public health nurses. Mrs. Bowes discusses nutrition from an entirely different angle which may be of help to American Dietetic Association members working with public health nurses. After covering the general and specific nutrition objectives, Mrs. Bowes offers a detailed outline for a nutrition institute. Her suggestions for a staff program in nutrition cover such topics as nutrition and health, interpreting nutrition to various age groups, budgets for families on low income, helping low income families with food problems, well balanced

meals at low cost and special food and diet problems. A long list of illustrative material and reading references is appended. This reprint can be obtained from the public health nursing organization at the above address for ten cents.

Research Grant. The dietary department of the Indiana University Medical Center at Indianapolis announces the addition of Grace Washburn to its staff. Miss Washburn is a graduate of the training course offered for student dietitians at the University Hospitals and has her master's degree from Purdue University.

Miss Washburn is working under a grant to Indiana University made by the Mead Johnson Company of Evansville, Indiana, for research work in nutrition and related problems. She will work in conjunction with the dietary department and the rest of the research group, which includes a bacteriologist and a nurse, to carry on some extensive clinical and laboratory research work pertaining especially to the nutrition problems of children. Miss Washburn will also be intimately connected with the teaching set-up in the training course for student dietitians.

Mellon Institute of Industrial Research announces the publication of a second edition of *Nutritional Charts* prepared by the staff of the research department of H. J. Heinz Company with the collaboration of the Institute. Copies of the publication will be sent gratis upon direct request to H. J. Heinz Company, N. S., Pittsburgh, Pa.

University of Alabama. Mrs. Ina Barbee Crane, dietitian of the University and former student of Anna M. Tracy, sends an account of the dedication of the two dining halls in Julia Tutwiler Hall. On Monday, November 25, 1935, Mrs. Ruth Bryan Owen, United States ambassador to Denmark, dedicated the halls and Miss Tracy also spoke. The occasion marked the completion of a long-planned piece of work, one that had arrived at completion through the coöperative efforts of many campus officers. The rooms were planned jointly by the acting dean of the College of Engineering, the dean of the School of Home Economics, the University architect, and the University dietitian. Funds for building were provided jointly by the University and the WPA, and practically all labor was done by WPA and FERA workers under the direction of the University architect. The dining rooms are each 90 feet long and 40 feet wide. The kitchen is between the two rooms, which are panelled in white pine, with sound absorbing material completing the walls and ceiling. The tables and chairs are of maple. The linen window hangings were made by student WPA workers, under the direction of the textile department, School of Home Economics.

In dedicating the rooms, Mrs. Bryan said: "I am so glad, in the first place, to help dedicate a dining room built in such beauty. When I went to college we began building our buildings like a zoological garden, one in each style of architecture. The first building was in the Mississippi River steamboat style, with a lot of iron grill work on it. Still another building was in the later warehouse period of architecture. Of course the ideal solution here in America was to tear them all down after a few years and build again."

Anna M. Tracy in her talk said: "Do not forget that this dining room is more than a place in which to eat, important as good food service is. Remember that the symbols of common food, the cup and the loaf, have long been used as symbols of friendliness between individuals and groups. Breaking bread together, in all cultures high and low, connotes confidence and good will, and is an ancient and continuing means of furthering social understanding. Without the well ordered 'things physical,' the 'things spiritual' are not easy to attain. Be appreciative of the cup and the loaf."

University of Chicago will conduct a fourth conference on business education under the auspices of the School of Business on June 25 and 26, 1936. The June 25 morning session will be devoted to the need for business education. At the afternoon session the topic of possible contributions to

general business education by certain fields will be discussed, including the fields of marketing, finance, economics, law, etc. The general theme of the June 26 morning session will be the school situation; progress in the schools, to date, will be the topic for the afternoon session. The sessions and discussions are not open to the public, but educators and business men with active interest in the topics to be presented are invited to attend.

Starling-Loving Hospital, Columbus, Ohio, announces that graduate dietitians of the last class now hold the following positions: Dorothy Anderson, chief dietitian, Iowa Lutheran Hospital, Des Moines; Mrs. Reid P. Joyce, Spanish Room of Deshler-Wallich Hotel, Columbus; and Lois Scripter, assistant dietitian, Watts Hospital, Durham, N. C.

The students enrolled at Starling-Loving Hospital this year are: Beth Thomas, Iowa State College; Helen Latta, Kansas State Agricultural College; Laura West, Ohio State University; and Eleanor Baisor, Penn State College.

The School of Homemaking, Young Women's Christian Association. The *Providence Journal*, December 29, 1935 carried on its Women's Page a lengthy writeup of the work of Miss Wells, director of the School of Homemaking, in connection with her interesting cook book *Nationality Recipes* reviewed in this issue of the JOURNAL.

Alabama Dietetic Association has had a series of successful meetings under the able leadership of the following officers: president, Kate Whitfield, Ensley High School, Ensley; vice-president, Elizabeth Slater, Norwood Hospital, Birmingham; secretary and treasurer, Stella Harms, Hillman Hospital, Birmingham; and the following section chairmen: administrative, Anna Irvin, Alabama College, Montevallo; professional education, Mary Blazek, Alabama College; publicity, Grace Gibson, St. Vincent's Hospital, Birmingham; community education, Ruby Gillis, Baptist Hospital, Birmingham; historian, Anne Greschman, Woodlawn High School, Birmingham; membership, Stella Harms, Hillman Hospital, Birmingham; and program, Elizabeth Slater, Norwood Hospital, Birmingham.

Variety of subjects and interesting speakers have made the series of programs delightful. The October meeting was the occasion for election of officers to fill vacancies left by members who resigned from the state association. In November, highlights of the national Association meeting in Cleveland were reported by Anna Irvin, Mary Blazek and Josephine Schaffer. The December program featured two talks: the first, by Mr. L. C. Bulmer, director of food and dairy inspection, Birmingham, was a discussion on "Regulation of Foods in Birmingham"; and the second, by Helen MacLean, superintendent of Norwood Hospital, was a description of "Food Service from the Standpoint of the Hospital Administrator". For January, representatives of V. W. Wood Co. were invited to give a demonstration of canned food and staple supplies. A social half-hour followed.

The University of Alabama invited the members of the association to a luncheon at the University, with Dean Agnes Ellen Harris as hostess. Dr. Anna E. Church, assistant professor of chemistry and home economics of the University, discussed the "Recent Research in Nutrition". Dr. Church is one of the leading nutrition workers in the state. Mrs. Betty Leboy Johnson, from a wealth of personal experience, directed attention to the important part the nutritionist plays in administering federal relief. Mrs. Johnson spoke of the interesting projects now under way in Alabama, including the Visiting Housewives' Service and the Food Clinic.

The association regrets losing a number of valued workers from its membership. Juliette Hamilton, founder of the state association and former dietitian of T. C. I. Hospital, Birmingham, is now located at Baylor College, Belton, Texas. Lenore Hollaway, formerly head of the foods and nutrition department of Howard College, Birmingham, is now teaching at the Senior High School, Elizabeth, N. J. Virginia Emerson, who last year was assistant dietitian of T.

C. I. Hospital, Birmingham, is at present dietitian at Veterans' Hospital, Coatsville, Pa. Mrs. Dorothy Scott Moschette, now a resident of New York City, recently resigned from the department of foods and nutrition, University of Alabama. Blanche Tansil, formerly professor of home economics, Alabama College, Montevallo, and president of the Tri-State Dietetic Association, is now at Winthrope College, Rock Hill, S. C.

To somewhat lessen the loss of these former members, a number of new names have been added to the roll: Elizabeth Slater, Indiana University Hospitals, now dietitian of Norwood Hospital, Birmingham; Ruby Gillis, Crawford W. Long Hospital, Atlanta, Ga., now at West End Baptist Hospital, Birmingham; Catherine Chandler, Gillsville, Ga., now at Gorgas Hospital, Birmingham; Josephine Schaffer, Santa Monica, Cal. now at South Highlands Infirmary, Birmingham; Grace Gibson, Oglethorpe Private Infirmary, Macon, Ga., now at St. Vincent's Hospital, Birmingham; Floy Gould, federal relief worker, Chicago, now dietitian at Howard College, Birmingham; Jeanette Biggs, University of Tennessee, now head of department of foods and nutrition, University of Alabama; Dorothy Johnson, Babies' Hospital, Wightsville Sound, Wilmington, N. C., now assistant dietitian, West End Baptist Hospital, Birmingham. In addition to these, the membership committee is working on a list of prospective new members of the state association.

Dallas Dietetic Association. Five American Dietetic Association members from Texas attended the national meeting in Cleveland: Rosalie Godfrey, Auston; Nell Morris, Denton; Frances Low, Irene Pope Hardy and Mary E. Smith, Houston.

Daisy Ellithorpe, former dietitian at Cook Memorial Hospital, Ft. Worth, is now located in Rochester, Minn. F. Jones is now head of the home economics department of Taylor High School, Taylor, and was succeeded as dietitian at Texarkana Hospital by Leolain Corbett.

Miss McCollum, Ruching Clinic and Sanitorium, is the new president of the Dallas association. This association received a report of the national convention from Nell Morris, head of institution economics, Texas State College for Women, Denton. Miss Morris also gave a delightful account of the work in the cafeteria dining halls and tea room under her direction. Ruth Dillon Heckler of Dallas Technical High School gave a talk on the courses taught by her in institution economics the past summer in Kansas State Agricultural College.

The Dallas association regrets to lose Louise Clark, chief dietitian, Methodist Hospital, who is now staff dietitian at the Federal Administrative Facilities Hospital, Washington, D. C. Ruth Jones, formerly assistant dietitian, succeeds Miss Clark at Methodist Hospital.

Mary Ella Pool, with the Sunset High School, Dallas, last year, is now with Anna Janzen, University of Texas.

District of Columbia Dietetic Association held its November meeting at Garfield Hospital with Mrs. Dodson, hostess. Katherine Durnel, secretary, and Eva Marks, treasurer, read their reports. Mildred Parker, chief dietitian, St. Elizabeth's Hospital and president of the D. C. association, gave a report of the annual convention in Cleveland. She also read the report of the meeting sent in by Rowena Roberts, who was unable to attend the local meeting Melba Bakke, Red Cross nutritionist, gave an interesting talk on the history of the nutrition service and outlined briefly some of the work now being done. Three new members were welcomed into the organization. After the meeting, delightful refreshments were served by Mrs. Dodson and her assistants.

The January meeting was held at Episcopal Eye, Ear, Nose and Throat Hospital. Susie Byrong Oakley and Adele Collins were joint hostesses. Mildred Parker, president, introduced the speakers. Mr. Mark Wooding, memory expert from the Wilkins Company, gave a demonstration of his ability to remember facts, and then gave a lesson on how to improve the memory.

Mr. Charles Smith of the Wilkins Coffee Company concluded the program with a brief talk on coffee. Interest in the subject was shown by the questions and answers which followed. Unusual refreshments were served by the hostesses. Dr. Martha Koehne, who is spending the winter at the Dodge Hotel, was a welcome guest of the association.

Florida State Dietetic Association will hold its annual meeting at the Florida State College for Women in Tallahassee, on March 21. Mary Lois Gill is program chairman. A local committee consisting of Anna Mae Sikes, Margaret Sandels, and Anna M. Tracy are in charge of arrangements.

Greater New York Dietetic Association and the Hospital Conference of the City of New York offered an interesting joint program on January 10 at Mt. Sinai Hospital. The paper "Dietitians of Yesterday and Today" by Dr. Mary deGarmo Bryan of Teachers College, was read by Lenna Cooper of Montefiore Hospital. In a symposium on "The Trends in Dietetics" four short talks were given by the following: Nelda Ross, Presbyterian Hospital, "In Therapeutics"; Henderika J. Rynbergen, New York Hospital, "In Teaching"; Dorothy DeHart, Roosevelt Hospital, "In Clinics"; and Adeline Wood, Mt. Sinai Hospital, "In Administration". Mr. J. H. Hayes, food administrator of Lenox Hill Hospital spoke on "Food Cost Control and Accounting", giving suggestions and typical examples of how food cost can be reduced. "Hospital Feeding from the Standpoint of the Administrator" was the subject of Dr. S. S. Goldwater, commissioner of the Department of Hospitals, New York. He expressed the high esteem in which he held dietitians and spoke of the problems involved in feeding patients. His talk was enthusiastically received.

On February 10, the New York Association, in conjunction with the Home Economics Association, held a meeting in the auditorium of the Western Union Telegraph Company. The speaker was Dr. Howard W. Haggard, associate professor of applied psychology at Yale University, and his subject, "Diet and Physical Efficiency." Many of the members had dinner in the main restaurant or the mezzanine cafeteria, and later made an inspection tour of the building.

Illinois Dietetic Association. The executive committee and committee chairmen met for the bi-monthly dinner meeting at the Women's University Club on January 15.

Sarah Elkin, chairman of the community education section, submitted a report of the progress of that section. Following are the project chairmen: Ruth Taborn, Michael Reese Hospital, "Child and Family Health;" Marion Jones, Billings Hospital, "How Dietitians in Dining Halls Arouse Interest in Nutrition"; Rita Black, Cook County Hospital, "Foreign Food Habits and Customs"; Ruby Finnern, Central Free Dispensary, "Food Clinics"; and Wintress Dalbey, St. Luke's Hospital, "Nutrition Information".

At the annual dinner of the Chicago Dietetic Association, the place cards were in the form of unique folders containing an invitation from the Illinois Dietetic Association to all dietitians living in the state to participate in the projects for 1936.

Evelyn Anderson of Passavant Hospital and Kathryn McHenry of Edward Hines Hospital spent two weeks of January in Guatemala. Sarah Elkin of Michael Reese Hospital attended the Mardi Gras and traveled in the South in February. Margaret Sievers of St. Luke's Hospital was married to Walter J. Walla on December 28.

Kentucky Dietetic Association has recently been accepted as an affiliated member of the national Association. Although organized but two years, there are at present 23 active and 11 associate members. The officers are: president, Edweena McCaffary, St. Elizabeth Hospital, Covington; vice-president, Grace M. Covey, Veterans Administration Facility, Lexington; treasurer, Lilly E. Kohl, Eastern State Teachers College, Richmond; and secretary, LaVerne Holt, Works Progress Administration, Paducah.

Edweena McCaffary, who presided, rep-

resented northern Kentucky at the meeting held in Louisville on December 15, 1935, which was called to carry on routine business and to make plans for the opening meeting, to be held in Lexington in April. Officers of the group who were present included: Grace Covey, Lilly Kohl, and Dr. S. Erikson, Lexington, chairman of professional education; Edith Grungemeier, Lexington, chairman of community education; and Nellie Berdeen, Louisville, chairman of administration.

Maryland Dietetic Association members were guests of the University of Maryland Hospital in Baltimore, January 13. Dr. Howard Bubert, associate professor of medicine, addressed the group on the subject of "Food Allergy". Following his talk, Miss Connolly and the members of her department served refreshments in the nurses' dining room. In spite of the cold weather and slippery roads, several Baltimore members drove in for the meeting.

On January 24 many dietitians attended the dinner given by the Maryland Home Economics Association at the Southern Hotel in honor of Dr. E. V. McCollum who told of his activities in London this Fall, when he served as a member of the League of Nations Committee on Nutrition.

On April 17 and 18 the Maryland Dietetic Association plans to hold its state convention in Baltimore. Dr. Mary Schwartz Rose has promised to speak at the banquet on Friday. On Saturday morning it is planned to visit a clinic, following which there will be a luncheon with departmental speakers. It is hoped that every dietitian in Maryland and many from neighboring states will be present for at least part of the time.

Massachusetts Dietetic Association. Margaret O'Neill is the new assistant administrative dietitian at the Peter Bent Brigham Hospital. Miss O'Neill is a graduate of the University of Iowa and of the course for student dietitians at Michael Reese Hospital, Chicago. She has recently resigned her position at Long Branch, New Jersey.

Jeanette Robinson has accepted a position at the Fairview Hospital at Great Barrington, Massachusetts. She is a graduate of the student dietitian's course at the Massachusetts General Hospital.

Mr. and Mrs. William Holcomb announced the arrival of a daughter, Karen Amelia, on January 16, 1936. Mrs. Holcomb was formerly therapeutic dietitian at the Massachusetts General Hospital.

Minnesota Dietetic Association held the last meeting of 1935 in Millard Hall at the University of Minnesota, Minneapolis Sister Mary Victor, dietitian at St. Mary's Hospital, Rochester, gave a detailed explanation of the dietetic curriculum for training of student nurses. A very complete report of the American Dietetic Association convention was given by Alice Biester, Mrs. Winifred Howard Erickson, Grace Moreland, Margaret Drew, and Agnes Tiegen.

Loretta Carney has accepted the position as assistant dietitian at St. Joseph's Hospital, St. Paul. Miss Carney completed her student dietitian course at Ancker Hospital, St. Paul, in January 1936.

Doris Grand has accepted the position of assistant dietitian at Mounds Park Sanitorium, St. Paul, taking the place vacated by Eleanor Ahrens.

Frances Janda, who has been state nutritionist at Ivanhoe, has been transferred to Anoka, Minnesota.

Frances Wylie has been appointed chief dietitian at the Colonial Hospital, Rochester, and Lucille Townsend is now assistant dietitian, the position vacated by Miss Wylie.

Ohio Dietetic Association will hold the annual convention in Columbus, April 14 and 15, at the Deshler-Wallick Hotel. The dietitians will meet jointly with the Ohio Hospital Association and other allied organizations. The following are chairmen of committees: Mrs. Alta B. Hirsch, program; Mrs. Madeline M. Tobias, local arrangement; Mary Louise Bone, nominating; Dorothy Proud, membership; and Rachel Read, publicity and affiliation.

Omaha Dietetic Association opened its fall meetings with a business meeting. This year's officers are: president, Elvira Anderson, Immanual Hospital; vice-president, Marian Bartlett, University Hospital; secretary, Angeline Phillips, University Hospital; treasurer, Agnes Richling, Douglas County Relief Association; and membership, Marjorie McKinley, Covanant Hospital.

At the November meeting Dr. Harold Murphy of St. Joseph's Hospital held a clinic on celiac disease. The meeting for December was a social one. In January the tentative outlines of the joint committee of the League of Nursing Education and the American Dietetic Association were discussed and also the national projects for this year.

In February Dr. G. F. Stewart of the research department of the Omaha Cold Storage Company presented a talk with slides on "Modern Methods of Poultry and Egg Storage."

Francis Daily has recently come to Clarkson Hospital as dietitian, Lydia Beck and Ruth Nickum to the Methodist Episcopal Hospital, and Emma Rohrs to the Nicholas Senn Hospital.

Dietitians Association of Philadelphia started the mid-winter meetings on January 14 with members of the League of Nursing Education as guests. Dr. Johnson O'Connor of Stevens Institute, spoke on "Applied Psychology in Testing the Aptitudes of Individuals". The meeting was held at Drexel Institute, preceded by a dinner at Leed's Restaurant.

At the January 28 meeting, Dr. Mary deGarmo Bryan of Columbia University, New York, aroused interest in the activities of the national Association. Dr. Bryan emphasized the value of being a member and having the support of one's own professional group. Several members led the discussion and many interesting facts were brought to light. Home economics students from nearby colleges were guests. The meeting was preceded by a dinner at the "Tally Ho".

On February 11, Dr. Ewan Clague, Pennsylvania School of Social Work, presented to the meeting some of the latest movements in Washington and their relation to social problems. After a dinner at Moravian Inn, the meeting was held at the University of Pennsylvania Hospital.

Spring was the guest of honor at the February 26 meeting, when Violet Findley, supervisor of nature study and health, Wilmington Public Schools, Delaware, gave a demonstration talk on "Flower Arrangement".

Philadelphia dietitians have popularized the dinners preceding the meetings. Many join those who must eat in restaurants every night, thus promoting sociability, and entertainment for the guest speakers as well.

Announcement is made of the death of a member, Ruth E. Trimble, who died on Christmas Day after a very brief illness. She was twenty-three years of age, a graduate of the Philadelphia General Hospital student course and formerly assistant dietitian at the Episcopal Hospital, Philadelphia.

Florence Golomb Fralin has been appointed nutritionist at the Jewish Welfare Society, Philadelphia. Alice Knudson is metabolic dietitian at the Philadelphia General Hospital. LaVonne Rector, chairman of hospitality committee, resigned to accept a position as instructor at the University Hospital, Ann Arbor, Michigan. Margaret Crozier accepted the chairmanship thus left vacant. Florence Turner has been appointed to organize the dietary department of the Municipal Colony, Trenton, N. J. Florence Shippee Pifer recently took up her duties as dietitian at the Harrisburg State Hospital, Harrisburg, Pa.

Recent placements among the graduate students of the Pennsylvania Hospital are as follows: Katherine Brown, Cohoes Hospital, Cohoes, N. Y.; Genevieve Dutton, catering manager, Carleton Hotel, Oak Park, Ill.; Rae Foulkrod, cafeteria system, Board of Public Education, Philadelphia; Dorothy McCrory, F. & W. Cafeteria, Atlanta, Ga.; Carolyn Marsh, St. Christopher's Hospital, Philadelphia; Evelyn Nutting, Highland Parks Hospital, Highland Parks, Ill.; and Mary Williams, Misericordia Hospital, Philadelphia.

Richmond Dietetic Association held its January meeting at Stuart Circle Hospital. Mr. M. Haskins Coleman, Jr., manager of the Richmond Hospital Service Association, was the chief speaker. He explained the value of group insurance, told of its rapid growth in the United States, and brought out the connection between the chosen hospital and the patient. Mr. Coleman, who has been asked recently to serve as superintendent of the emergency relief hospital work, answered many of the dietitians' questions on how they could serve and organize an emergency dietary department, in case of emergency disaster.

The executive committee, at its last meeting, voted to send a representative to the regular monthly meeting of the Women's Joint Congressional Committee in Washington on January 6, in order to give the association a detailed report on the membership attending such a meeting, the scope of its work, its method of procedure, and the relation of the association to others. As president of the Richmond association and representative of the American Dietetic Association, Aileen Brown was appointed to secure the above information. Her report was made at the January meeting.

To arouse interest in reading the JOURNAL more completely the motion was made and carried to have a different member at each meeting be responsible for a set of 25 true-false questions, with a prize for the member receiving the highest score each month and a grand prize for the one with the highest total during the year.

Aileen Brown, director of dietetics at the Medical College of Virginia has just issued a new diet manual for the hospitals, and has sent complimentary copies to each hospital member of the Richmond Dietetic Association.

Plans are already under way for a dance and bridge party at a local hotel to raise money for association activities.

The South Texas Dietetic Association, which was accepted for affiliation by the state association late in November, has been a very active group for the past two years. Monthly meetings with varied types of educational and entertaining programs have been held.

During the past year the association entertained with a formal dinner at the Methodist Hospital honoring Dr. Mary de-Garmo Bryan; a moonlight horseback ride and steak dinner on the beach at Galveston as guests of the John Sealy Hospital dietitians; and an outdoor chicken barbecue, at a summer home on the bay, given by the Herman Hospital dietitians. The October meeting was in the home of Mrs. Ella A. Schwartz. This meeting offered opportunity for informal discussion of the recent national convention, from which three of the members had just returned. Mrs. Schwartz's bountious and charmingly served buffet dinner was acclaimed a perfect example of the dietitians' art at its best.

These social meetings have been interspersed with meetings at the Memorial Hospital where business was transacted and various doctors were asked to speak.

Texas State Dietetic Association. The annual meeting of the state association will be held in Austin on April 17 and 18. To make plans for this meeting, the executive committee met in Austin, at the Scottish Rite Dormitory, January 26, with the following members present: Mary E. Smith, president; Olive Black, vice-president; Irene Pope Hardy, secretary; and the following section chairmen: Mamie Ruth Harris, administration; Helen Seago, diet therapy; Lorraine Warnken, community education; Frances Low, professional education; Selma Streit, program; and Kathleen Ayers Davis, nominating.

The state association now has 46 members, 39 of whom are active and 7 associate members. Since organizing in February, 1935, this association has been responsible for 18 new members of the A.D.A.

Dorothy Smith McCormack is the new dietitian at St. Paul Hospital, Dallas. Elva Cozzens of Clinton, Iowa, is dietitian at Methodist Hospital, Dallas. Ruth Jones, formerly at Methodist Hospital, is at her home in Tonkawa, Oklahoma. Lesee Bullock, formerly with Masonic Hospital in

El Paso, is now dietitian at the Medical Arts Building, Dallas.

Tidewater Dietetic Association held its first monthly meeting of the year on January 15. The following officers were elected: President, Eugenia Eley, Protestant Hospital, Norfolk; vice-president, Alice Anderson, Veterans Hospital, Hampton; and secretary and treasurer, Ethel Willey, Maury High School. At this meeting, Dr. W. B. Martin gave an instructive talk on "Diet in Diabetes". The February meeting was a trip to Armour and Company, with a dinner meeting following at the Ragged Robin Tea Room.

Marion MacKenzie, student of Johns Hopkins Hospital, is now at Memorial Hospital, Norfolk, Virginia. Cecelia Hulcher, formerly of St. Francis Hospital, Wilmington, Delaware, is now at St. Vincent de Paul, Norfolk, Virginia.

The Virginia Dietetic Association held its semiannual meeting at Charlottesville, November 14 and 15, with Celia Swecker, president, presiding. Speakers included Dr. Kincaid of the University of Virginia Commons who spoke on "Management of Dining Halls for Men"; Dr. Carlyle S. Lentz, Superintendent of University of Virginia Hospital; Margaret Edwards, Dean of Home Economics of the Woman's College of North Carolina, "Advancing Dietetics Through Unified Training"; Ruth Atwater, "The Value of Research to the Consumer"; Robert Funston, University of Virginia, "The Influence of Injuries on Sugar Metabolism"; and Dr. Crest P. Segard, Wisconsin Alumni Research Foundation, "Elements as Food Factors".

Discussion by members of the association followed each talk. The banquet was held Friday night at the Monticello Hotel, with Janet Cameron as toastmistress. Arrangements and program were in charge of Lois Watts, Clara Childress, Margaret Poindexter and Doris Woodward.

The next state meeting will be held in connection with the Tri-State Hospital Association in Old Point Comfort, April 16 and 17. Headquarters will be at the New Chamberlain Hotel.

Random Notes from the Lay Press. The National Consumer News, "A Newspaper with a Cover, published twice a month for the protection of the consumer-buyer" for January 25, 1936, contains comments on the following:

Clara M. Taylor, instructor in nutrition and director of exhibits on low-cost diets at Columbia University, said that $8.75 a week will feed a family of five on "more than a mere maintenance diet." Consumers, however, say that present prices of food supply would make this practically impossible.

Dr. Ephriam Freedman, director of Bureau of Standards, R. H. Macy & Co., New York, says that standards for consumer merchandise will be set up when and if consumers demand them. Such a movement is now being sponsored by the American Standards Association.

A National Consumers' Union, was announced in this issue as being planned by Arthur Kallet and Dewey H. Palmer, former directors of the Consumers' Research of Washington, N. J. In February, however, according to the New York *World Telegram* for February 6, the organization opened its New York office at 22 East 17th Street, with Dr. Colston E. Warne, economics professor at Amherst College as president. It will publish for consumers the "ratings of goods and services based on analyses by expert technicians."

Eggs by the pound is Michigan's latest selling idea, to eliminate buying losses due to variations in egg sizes. A pound of eggs averages about two-thirds of a dozen.

Odorless cabbage will be on the market for nation-wide consumption in about two years, according to Professor C. H. Myers of Cornell University. He has been experimenting for six years with 4000 cabbages which have been closely guarded against contamination by their common relatives. Heredity plays the leading part in this drama of cabbage evolution.

Artificially colored orange beverages will be discontinued July 1, 1936, according to

a notification sent out by Secretary of Agriculture Wallace to all manufacturers. The Food and Drugs Act prohibits the use of arificial color in the preparation of finished beverages such as orangeade, and in concentrates or beverage bases from which they are prepared.

Grade labeling received a blow from George M. Hoffman, of Allentown, Pa. Grocer Hoffman put various brands of canned foods in his shop through a systematic test by checking the contents with the statements on the labels. He made the interesting discovery that some labels bore understatements of food quality, and concludes that "there are too many items of canned foods, and too many different scoring factors applicable in foods of widely different character for so simple a formula as Washington proposes under its grade labeling, to be of practical value for either grocer or consumer."

"Table Talk"—the intermittent culinary department of *Readers Digest*—includes in the February, 1936 issue, comments on the following, taken from various publications:

Canned food which heats itself is the newest innovation. The inner can contains the food. The outer can has two compartments, one containing water and one unslaked lime. When holes are punched through the outer wall, the unseen water rushes to mix with the lime, causing sufficient heat to make the food piping hot.

Wax will be a large competitor of refrigeration for keeping sun-ripened fruits and vegetables fresh. A thin coating prevents scald in apples. Oranges and grapefruit are kept fresh for six months instead of six weeks, and lemons for almost a year. Tomatoes and cantaloupes can be picked ripe and shipped immediately, thus adding a new taste thrill to the city consumer's jaded appetite.

Frozen bread and colored bread demand attention. New York chemists were fed bread that had been kept a week below freezing. When compared with ordinary bread for aroma and flavor, frozen bread got their vote. Benefits are possible shipment of bakery goods to remote points, and better adjustment of supply and demand. Holland has put the idea to use. Bright colored bread to match the hostess' gown is making its appearance in Spokane. It should add a lively note to the tea ensemble, if not to the digestion.

Budapest cafés serve liquid refreshments in Hungarian whistling glasses shaped somewhat like old-fashioned lamp chimneys. When the glass is empty the drinker blows into it. A deep soulful note ensues, and the waiter rushes to refill the glass.

Those who dislike fuzz on peaches will be delighted to learn that a California packing plant has installed a machine that defuzzes peaches, leaving them smooth. Two tons of fuzz were removed from 27 cars of peaches.

The elusive vitamin H has been isolated for the first time by Dr. Lela E. Booher of the department of chemistry of Columbia University, according to an item in the New York *Sun* of February 4, 1936. Dr. Booher said that its properties are believed to include, among other things, a protective element against pellagra. Experiments with rats showed that a deficiency of vitamins G and H in the food content administered, resulted in loss of hair and serious skin eruption. After vitamin G had been isolated vitamin H became the objective and was derived from the former. In the extraction of dry whey, fuller's earth was used in the final concentration procedure of absorption. "Vitamin G was found on the fuller's earth, and the new vitamin was recoverable from the resultant solution", said Dr. Booher. Vitamin H is found chiefly in rice polishings and whey, and a modified amount in milk, and cereals such as bran and wheat.

To further cheer the consumer, we learn in the N. Y. *Herald Tribune* for February 9, that Dr. Shirley W. Wynne, former Health Commissioner of New York announced the organization of the Shirley W. Wynne Public Health Laboratories "to create and promote better understanding between the consuming public and producers and manufacturers of food products and commodities which affect public health directly or indirectly." Certification will be given those products which meet the Laboratories' requirements, and will be publicized through newspapers and the radio.

Rochester Dietetic Association held its regular meeting on January 16 at Iola Sanitarium, with Mildred De Wolf and S. Barbara Littlejohn as hostesses. The program, arranged and presented by the student groups from the various hospitals, made the association realize what a real contribution our student group can give. Job analysis; a study of the percentage yield and cost on fresh vegetables over a one-year period; a comparative cost study on therapeutic and house diets; and a survey of a course in animal experimentation were presented.

On February 20 a George Washington Party was held at St. Marys Hospital. The invitations read "bridge, monopoly and games or bring your knitting." Geneieve Brady acted as hostess.

WHO'S WHO IN THIS ISSUE

Donald J. Barnes, M.D., of Harper and Children's Hospitals, Detroit, Michigan, has been working on the problem of rickets since 1928. This work was begun while he was serving as director of the Child Welfare Division of the Detroit Department of Health. For the past three years, Dr. Barnes has been conducting some studies on vitamin D and rickets for the U. S. Children's Bureau.

C. C. Higgins, M.D., received his medical degree from Washington University Medical School, St. Louis, in 1923. He became a resident of the surgical staff, Cleveland Clinic Hospital, in 1924 and has been a member of the urological staff of the Clinic since 1928. Dr. Higgins has written many papers on urological and general subjects and in 1934 was awarded the bronze medal at the Cleveland session of the American Medical Association on "Experimental Production and Solution of Urinary Calculi," and the Certificate of Honor at the 1935 Atlantic City session on "Transplantation of the Ureters into the Colon and Cystectomy." **Florence E. Bateson, B.S.,** is a graduate of the University of Washington, 1924, and the course for student dietitians, Johns Hopkins Hospital, 1925. In 1929–'30 she took graduate study in institution economics, University of Chicago. She was therapeutic dietitian of the out-patient department, Johns Hopkins Hospital, 1925–'26, administrative dietitian from 1926–'29, and since 1930 has been chief dietitian, Cleveland Clinic Hospital. She is president of the Ohio Dietetic Association. **E. Eames Harrison** received her B.S. degree in 1930 from University of Maryland, and is a graduate of the student dietitians' course, Johns Hopkins Hospital. She was assistant dietitian in the hospital from 1931–'32, was a member of the home economics department, Consolidated Gas and Electric Light Company, Baltimore, 1933–'34, and therapeutic dietitian, Cleveland Clinic Hospital, since 1934.

Neva Henrietta Radell, assistant professor, School of Business Administration, The Drexel Institute, Philadelphia, is on temporary leave from her department and is at present a member of the staff of the department of institutional management under Dr. Bryan at Teachers College, Columbia University. She is the author of a unique book, *Accounting and Food Control.*

Faith M. Williams, is chief of the Cost of Living Division of the Department of Labor, Washington, D. C. She formerly taught at Cornell, and later became a senior economist with the Bureau of Home Economics of the Department of Agriculture. She is a member of the American Economic Association, the American Statistical Association, the American Home Economics Association and the American Association of University Women, of which she is chairman of the committee on consumers' interests.

Henry B. Elkind, M.D., after graduating from the Tufts College Medical School in 1915 engaged in the private practice of medicine in Worcester for several years. Later he spent two years in study at the Harvard School of Public Health, from which he received his doctorate in public health. During this period he served as psychiatric consultant in various department stores and factories in and around Boston and had an excellent opportunity to make practical application of mental hygiene principles to personnel problems. Dr. Elkind has been medical director of the Massachusetts Society for Mental Hygiene since 1925.

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The abbreviations used to explain in which section the material indexed appears, are as follows: ab., abstract; a.p., association progress; c.c., current comment; ed., editorial. Titles of books reviewed appear in one listing under "B". Only the articles under the current literature sections which have been abstracted are indexed. Author index appears following subject index. Only the names of authors whose articles have appeared in the JOURNAL (not those whose articles have been abstracted under the current literature section) and authors of books reviewed in the JOURNAL, appear in this index.

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